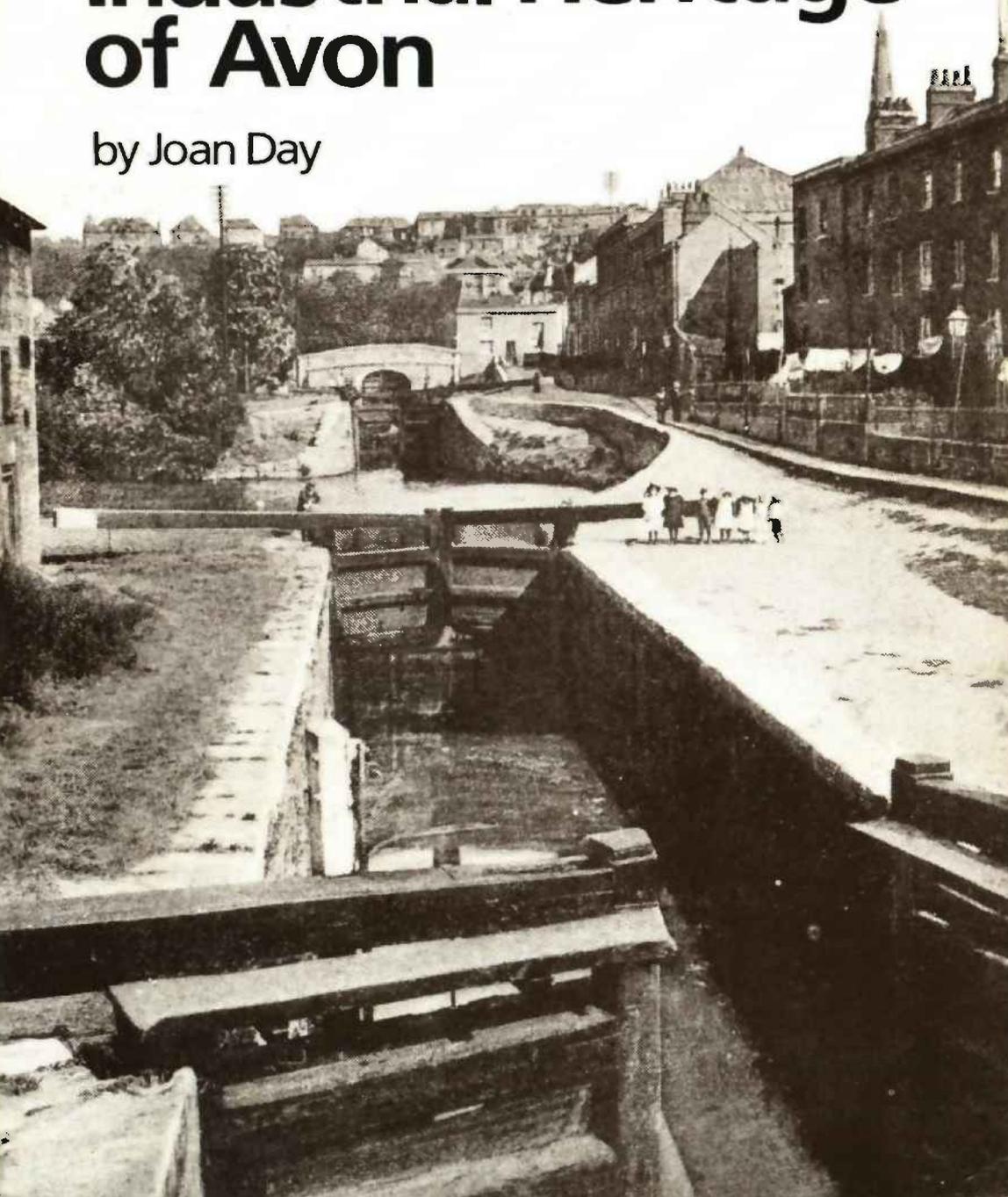


A Guide to the **Industrial Heritage of Avon**

by Joan Day



A Guide to the Industrial Heritage of Avon and its borders

by Joan Day

The County of Avon

Avon, a county newly created in 1974 from northern Somerset, the old City and County of Bristol and southern areas of Gloucestershire still has its critics and detractors but, without doubt, the industrial history of the area has a cohesive entity. The resulting archaeology is best dealt with in the new county boundaries and their borders containing, as they do, such a depth and breadth of great interest and importance to industrial development.

The growth of industry in the area was dominated by the influence of the port of Bristol but augmented by local resources. The industrial pattern emerging from this situation has been one of diversity, as varied as any area in the country and far more so than most. The resulting archaeology is wide in its range and has the added advantage of being concentrated in a comparatively small area. It is possible therefore, only to include a selection of the more significant sites in this brief guide but the choice is made for its spread of interest and its representation of the industrial archaeology of the County of Avon.

For the purpose of this guide the County has been divided into its constituent Districts. Although their boundaries are quite artificial in the light of industrial development it is these individual authorities which deal, in the first instance, with administration of planning issues on historical sites in their care. This classification may thus be of use to those wishing to protect the future of any particular feature.

Individual entries in each District are ordered approximately as a round tour so that those sites situated near one another will be placed more or less together in the guide. Those readers wishing to have a subject classification should refer to the index. Whilst taking responsibility for, and regretting, omissions made inevitable by lack of space

and also the errors which may occur, the author will be pleased to receive further details which correct or update this brief record of industrial archaeology in Avon.

Acknowledgement Any guide of this nature must draw upon work which has gone before and inevitably the author is indebted to those who have previously researched, recorded, written and published. The help of District Planning Departments, particularly their Conservation Officers, must be acknowledged for supplying maps and for checking current details. In bringing past records up to date many sites have been visited and owners who have allowed access for this purpose are sincerely thanked for their courtesy.

Access Those with a genuine interest in the industrial archaeology of Avon will understand the necessity of good relationships with the owners of sites in furthering future investigations. It is stressed that no attempt should be made to gain access to private property without prior permission. This may not be forthcoming and, indeed, can only be expected at the owner's convenience and after a courteous approach is made.

Maps The best single map for the area is the OS 1:50 000, No 172 but it omits the extremities dealt with in the East by 173; West, 182; South, 183.

In the One-Inch Series: 156 deals with Bristol and Stroud
165 Weston-super-Mare
166 Frome

For Bath and Bristol details the OS 1:25 000 Series is useful:

ST 66/76 Bath and Keynsham
ST 57/67 Bristol

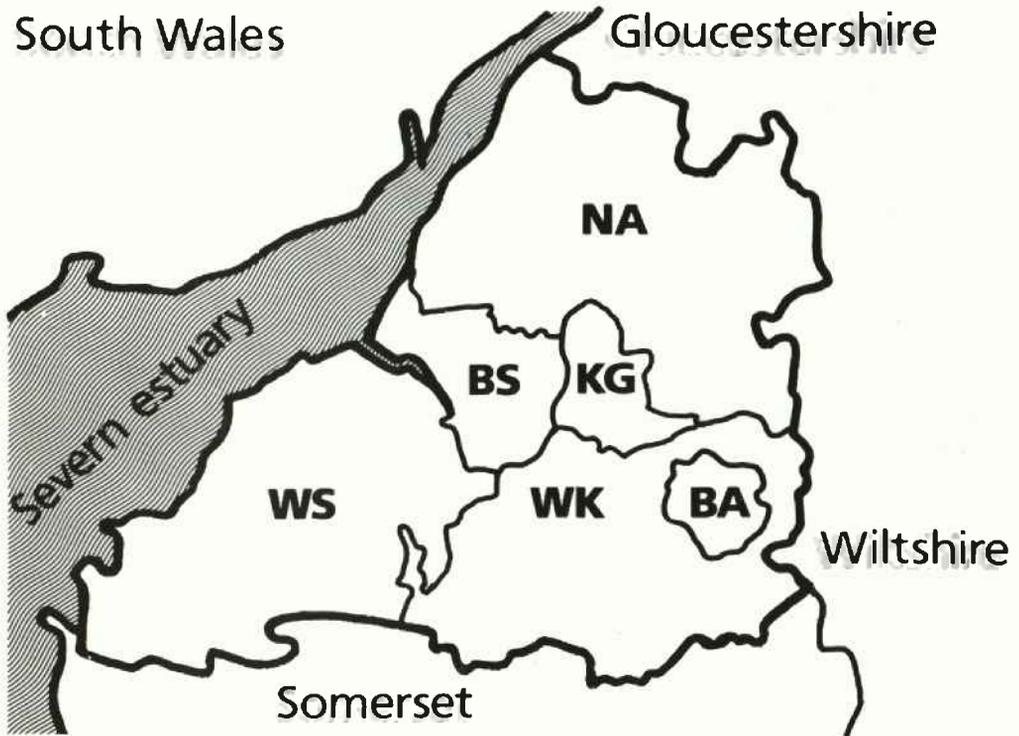
Grid References The whole area covered by this guide falls within the **ST Grid Letter Reference**, and these letters are omitted throughout in the interests of space saving.

Photographs by Roy Day unless otherwise stated

Cover picture from a c1905 postcard of entrance locks to Widcombe Flight, also showing distant lock and roadbridge now replaced (see BA 04)

South Wales

Gloucestershire



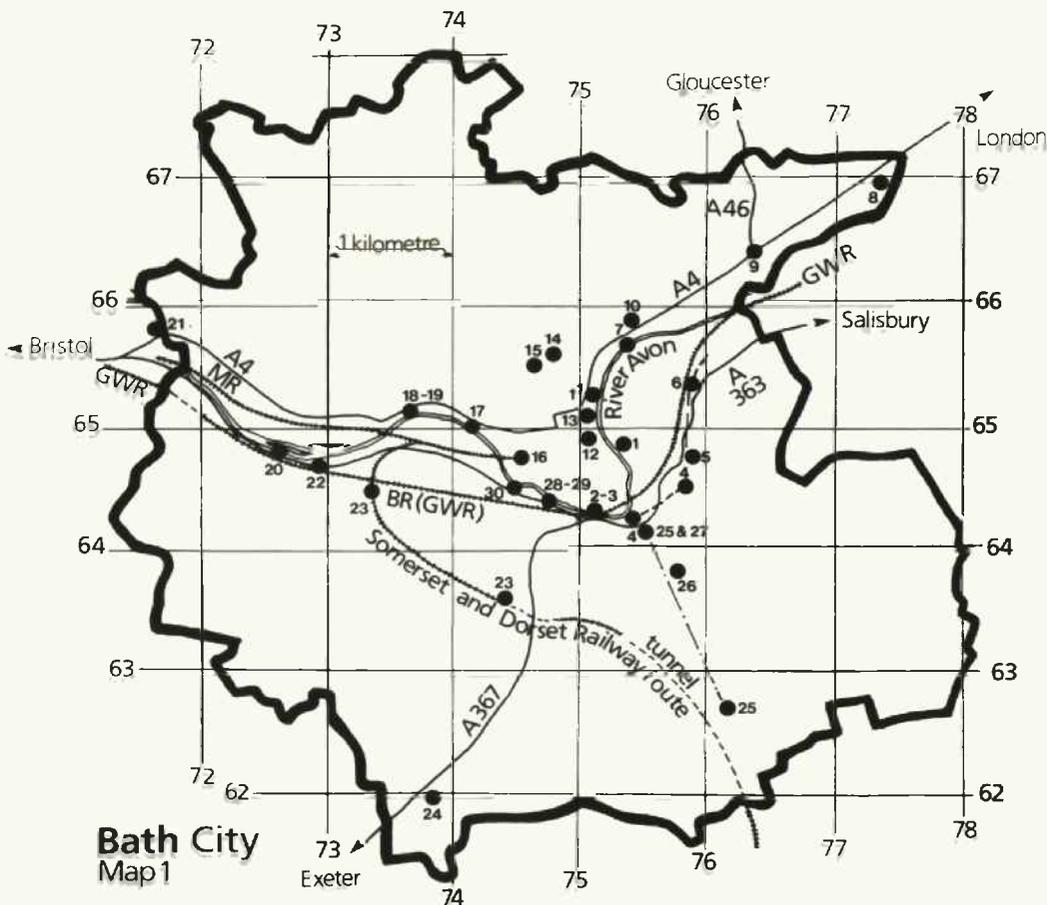
The County of Avon Districts and the borders of adjoining counties

BA Bath	WK Wansdyke
BS Bristol	GL Gloucestershire
KG Kingswood	WT Wiltshire
NA Northavon	SO Somerset
WS Woodspring	

The City of Bath

With outstanding remains from the Roman era available in the heart of the city the industrial archaeologist might consider the study of Roman techniques such as the manufacture of lead piping or quarrying and use of Bath stone to come within his range. The next era of fame in the eighteenth-century days of fashionable society brought its own industrial requirements in the provision of services, food, drink, clothing and furniture. It also promoted an expansion in the quarrying of local stone for its fine buildings and a new interest in transport.

Quite apart from the needs of high society there was still a place for development in the traditional industrial scene which had grown from local resources. West Country wool for cloth manufacture, local coal and other mineral resources from Mendip, waterpower in abundance for a variety of manufacturers all provided a basis for industrial enterprise. The impact of the port of Bristol in the provision of raw materials and the requirements of the port played a part in the ways Bath's industry progressed into the nineteenth century. It also influenced the creation of road, water and rail transport systems routed through the city, all features providing a wealth of industrial archaeology in the present-day City of Bath.



BA 01 Pulteney weir and millsites (754648) Just below Bath's famous Pulteney Bridge, built by Robert Adam in 1774, lies the weir rebuilt in 1971 on the site of an ancient structure. It served mill sites on either bank, both grist and fulling mills at various times, the site on the city bank having references before Domesday, but only fragments of the building now remain in the Parade Gardens. On the far side, remains of Bathwick Mill and its race were modified in 1971 as part of the flood prevention measures.

BA 02 Bath Spa Station (753644) The viaduct of Brunel's broad-gauge Great Western Railway crossed the Avon by St James' Bridge to arrive at a station completely

roofed over. This was removed in the late nineteenth century but the Jacobean facade survives with a few modifications. Towards Bristol, the viaduct route recrossed the Avon by a timber skew bridge, (long since replaced) and a pair of castellated road bridges which were cleaned and repaired during 1986.

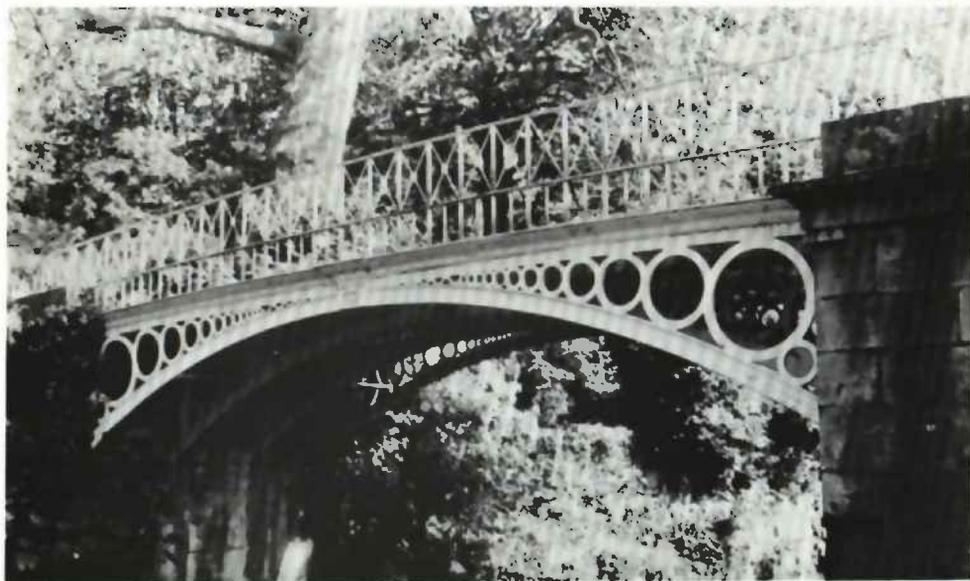
BA 03 The Halfpenny Bridge, Widcombe (753643) The present footbridge replaced an earlier bowstring girder structure which collapsed in 1877, killing eight and injuring 50 people. The bridge had been crowded with railway passengers heading for the Bath and West Show and queuing to pay their tolls. The small tollhouse over the Widcombe abutment survives from the original structure.

- BA Widcombe flight of locks** (754643-758645)
- 04** Access from the River Avon to the Kennet & Avon Canal through the curving Widcombe flight of seven locks was made possible in 1810 after John Rennie had abandoned previous proposals. Re-opening in 1976 after years of dereliction involved combining two lower locks to accommodate a new road bridge but, otherwise, this attractive stretch remains much as constructed including two Stothert cast-iron footbridges. Thimble Mill at the entrance lock an **early pumphouse** (754643) was converted to a restaurant during 1986.
- BA Baird's Maltings** (758647) This small canal-side malthouse was adapted as architects' premises after the business closed in 1972. More recently re-adapted to a private dwelling, it still retains interior structures and components of the malting business as well as the appropriate outward appearance.
- BA Sydney Gardens** (758654) The price for allowing the **Kennet & Avon Canal** through these pleasure gardens included the decoration of portals to tunnels at either end of the stretch and the erection of two separately designed Coalbrookdale cast-iron bridges, both dated 1800. **Cleveland House**, headquarters of the canal company

was built over the canal to the city side of the gardens, at (758653). Nearly forty years later, the **parallel route of Great Western Railway** through the gardens matched the standards with a finely dressed ashlar retaining wall and balustraded railway-side walk through the gardens at (757654).

- BA Cleveland Bridge** (753657) Erected in 1827, the seven ribs of this single-span iron bridge were cast by W Hazledine whose name is commemorated on a plaque, together with that of the architect, H E Goodridge, responsible for the pairs of kiosks at either end which were originally intended as bridge tollhouses. The bridge is now underpinned with reinforced concrete beams.
- BA Bathampton Weir, Bridge and millsites** (774670) As with most other weirs on the main reaches of the Avon, there were mill-sites here on either bank. Both of these were ancient corn mills now converted to restaurant use. Until 1872 the river crossing was by ford, or a ferry just below the weir. A bridge built in that year still operates as a tollbridge, with its tollhouse on the Batheaston side. Nearby, former brewery buildings now provide storage facilities.

Cast-iron bridge, Sydney Gardens



- BA 09 Lambridge boundary post (763664)** A cast-iron boundary post from Bath turnpike Trust still stands close to the junction between A4 and A46, usually obscured with grime.
- BA 10 Walcot Brewery (754658)** This former brewery has some of its buildings, and more conspicuously, its malthouse built into the steep hillside off Thomas Street.
- BA 11 Bath Tramways Company Depot (752653)** Walcot Street. The tram shed and generating station of the electric tramway service, first introduced to the city in 1904. This building, now rather delapidated, is being used as a store.
- BA 12 City shopfronts** Bath has retained many early shopfronts in the city centre which are worth noting. Argyle Street has a fine chemist's shop surviving from the 1830s. Milsom Street has many Victorian facades which supplied the fashionable elite, whilst George Street has a fine row of miscellaneous smaller frontages with another early chemist's shop approaching the corner with Gay Street.
- BA 13 Bath's Turnpike Trust**, formed in 1707 to improve roads radiating from the city centre, was the earliest in the area. Its surviving relics are more numerous outside city boundaries although some milestones and parish boundary posts remain. From the demolished **Newton Fork Tollhouse**, the tollhouse is now displayed in **Bath's Postal Museum** in Broad Street. (750651).
- BA 14 The Bath Industrial Heritage Centre (748656)** houses all the machine tools, stock, patterns, spare parts, bottles and bric-a-brac rescued from J B Bowler's City Metal Stores, formerly in business in Avon Street until closure in 1969. The business included ironmongery, iron working, brass founding and the manufacture of aerated waters and nothing was ever thrown away. The Museum also exhibits a display on the Bath stone industry.
- BA 15 Bath's Georgian and Regency architecture**, in admiring the elegance of the city's architectural heritage displayed in The Circus (747653) Royal Crescent, (744654) and numerous other crescents and squares, it is also worth noting the craftsmanship shown in handling the local freestone brought from the hillsides above Bath. The ironwork of these houses, the railings, balconies, window boxes and lamp arches are also worthy of notice, although their sources have not so far been discovered.
- BA 16 Green Park Station (745647)** The present appearance of this former joint Midland Railway and Somerset & Dorset Station of 1874 is a credit to those who campaigned for its survival and to J Sainsbury plc who restored it. The arched train shed now serves as a car park, the concourse houses a market area, small retail shops and a restaurant, while the classical frontage once again befits the Bath architectural scene.
- BA 17 Victoria Bridge (742650)** A suspension bridge of 1836 by James Dredge of Bath using principles he patented after his failure in the Clifton bridge competition. The decreasing number of chains used towards the centre of the catenary, together with increasingly inclined suspension rods, are his main features, clearly displayed in this bridge.
- BA 18 Bath Gas Light and Coke Company, Upper Bristol Road (736653)** Established in 1818 the works occupied an area between the road and the river. Water transport was used later to transfer waste tar to the Crews Hole distillery at Bristol. Gas production ceased in 1971 and the site was gradually cleared apart from the gasholders and company offices, built 1858-9, which still bear the company title.
- BA 19 Turnpike Trust cast-iron plate (736654)** Situated on a road-side wall, opposite the site of the gas works, a distinctive plate engraved 'One Mile from the Guildhall', was a special feature of the Bath Trust. Others similar were displayed elsewhere, one on the Lower Bristol Road (742647) although repositioned, still survives.
- BA 20 Twerton and Weston Mills (726647 and 724648)** Two adjacent weirs both served ancient fulling-mill sites on either bank of the Avon, which here divides Weston and Twerton. Other diverse industries later occupied the sites but the complex survived into this century mainly as large cloth-mill premises, now almost entirely demolished, but weavers' cottages have been modernised at Rackfield Place on the Twerton bank. A single floodgate replaces both weirs

but originally, when they both were bypassed by the Avon Navigation cut in 1727-8, the Weston mills were left isolated on what became known as Dutch Island. Continental workers had been brought to the upper site, converted to a brass mill in the early 1700s. A **footbridge** giving access over the cut to the island still has its datestone of 1728 at (726648).

BA 21 New Bridge (717658) A fine Bath stone single-arch span which was built in the 1730s by Ralph Allen's foreman mason Richard Jones. Replacing a ford, it provided a link between the two turnpiked routes to Bristol. The structure was modified and made wider during the 1820s.

BA 22 Twerton Station (729646) Perched high to accommodate the viaduct levels of the GWR, this station opened three months after the Bath-Bristol route was inaugurated. The Twerton viaduct necessitated the re-routing of the Bristol turnpike road to the present A36, having formerly passed through the village. At road level the viaduct has several apparent dwellings built into it, (724648) believed never to have been occupied. The line immediately approaches two short tunnels with **decorated portals**, the best viewed being at the western end (717653).

BA 23 Somerset & Dorset Joint Railway (733645-744635) The company opened its adventurous route in 1874 from Evercreech over Mendip to Bath, sharing its terminus with the Midland Railway. From Green Park Station the tightly curving alignment rising through Twerton and Oldfield Park is now designated a linear park from its bridge over the GWR line at (733645) up to the first of two tunnels towards the summit of the climb.

BA 24 De Montalt paper mill (736620) An early nineteenth-century paper mill which originally was powered by a large water-wheel, described, with some exaggeration, as 'the largest in England'. Steam power was adopted later for the production of high-quality artists' board and paper. Remaining buildings have since been used as a laundry and a joinery works but can still be identified with a drawing of the water-powered papermill era.

BA 25 Ralph Allen's Carriageway (755643-761627) The consistent gradient over the present Ralph Allen Drive indicates its foundations. Constructed for a single line of timber rails on which single gravity-fed timber wagons ran on flanged cast-iron

Victoria Bridge



Twerton Station, Lower Bristol Road



wheels, it opened in 1732, the first railed way in the south of England. The wagons loaded with stone from Allen's **Combe Down Quarries** (759625) were hauled by horses to the point where gravity took over for the 500ft drop to Dolemeads wharf on the river bank below.

BA 26 **Prior Park Road millsite** (757638) Although now part of garage premises, the building of a small grist mill remains recognisable, having once been fed by the small streams from Widcombe Vale and Lyncombe Vale which unite just above the site.

BA 27 **Ralph Allen's workers' housing**, Widcombe (755643) A terrace of modest houses for the men of Ralph Allen's stone quarrying business, situated alongside the lower lengths of his carriage way, is believed to have been built in the 1730s. Road widening proposals which threatened demolition were eventually overcome and the terrace has been successfully restored to modern standards.

BA 28 **Lower Bristol Road Mills** (749644) A five-storey stone block in three sections, but with similarities in style has been used

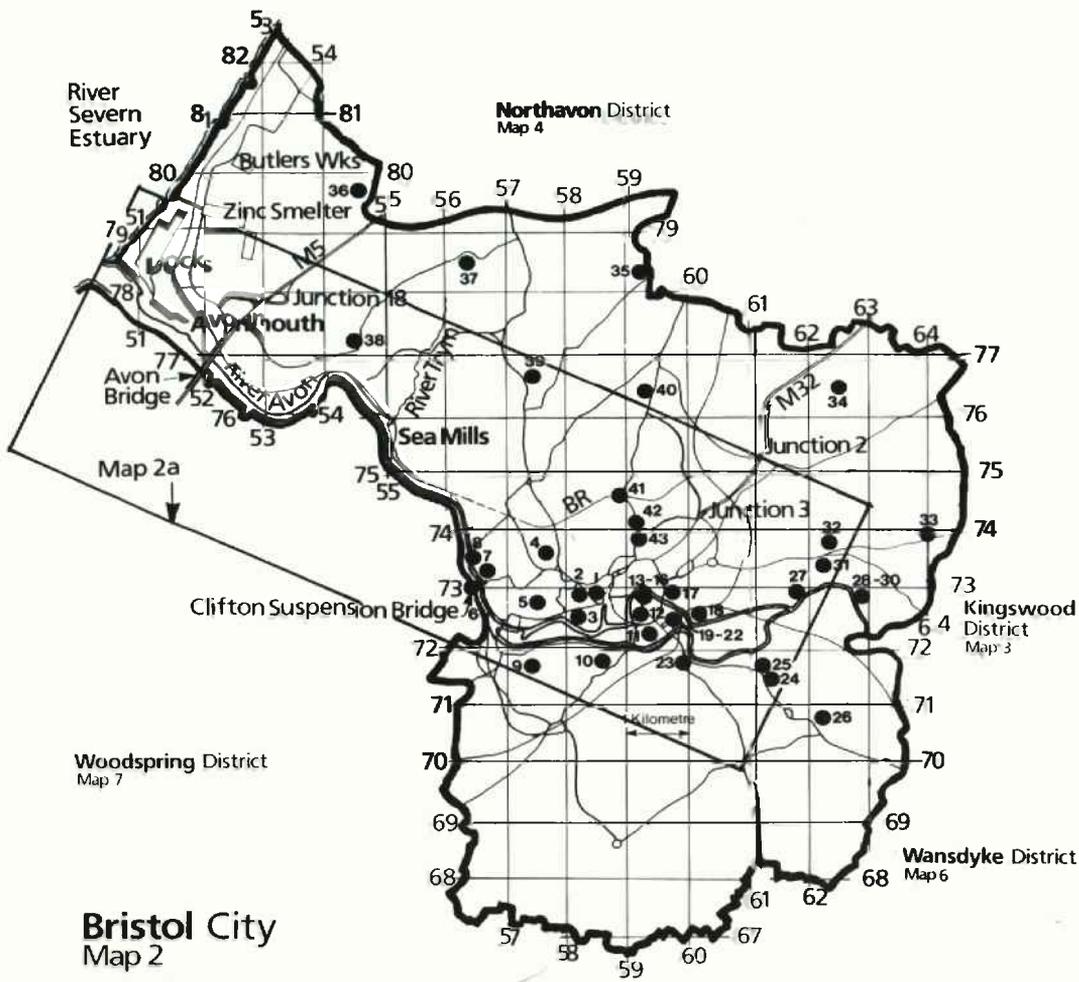
jointly and separately at different periods for producing animal feed, malting and grinding grain, having suffered fire and bomb damage in the past. The Peter Simper Organisation has shown the feasibility of adapting part of these premises to modern business purposes.

BA 29 **Bayer's corset factory**, Lower Bristol Road (748644) A large four-storey brick-built factory, constructed c1890 for the manufacture of foundation garments, adjoins the above premises. It illustrates activity in this sector of the clothing industry which has had a long representation in both Bath and Bristol. The building is far from beautiful but, combined with the above site, it presents a facade to the River Avon at its rear which is not unattractive.

BA 30 **Newark Foundry** Lower Bristol Road (745645) The ironmongery started by George Stothert in 1785 expanded to foundrywork requiring these larger premises by 1857. Later, with a new partner the company became Stothert and Pitt and began to specialise in the supply of construction plant, pumps and cranes to world-wide markets. Newark Foundry has now been vacated for company premises at Victoria Works.

The river frontage of Bayer's corset factory and adjoining millsites





Bristol City Map 2

Bristol City

Bristol Bridge, now modified but basically still the stone structure completed in 1768, stands almost on the same site as the late Anglo-Saxon timber crossing which gave rise to its name. Brycgstow, the place of the bridge became colloquialise to Bristol, thus indicating its much later foundation compared with that of Bath. The development of Bristol was closely related to that of the inland port which evolved at this lowest bridgepoint over the Avon. The port also provided much of the impetus for growth in local industry.

Early exports of woollen cloth together with imports of agricultural produce, dried fish, wine and other continental luxuries were added to later by trade in the new raw materials from North America. Sugar, tobacco and dyewoods were among the goods which required processing, but the New Plantations also required supplies of domestic and industrial materials which increased the local range of production, to become notable for its diversity. Natural resources augmented the trend. Supplies of coal locally available from the thirteenth century had encouraged a number of trades from soap making to dyeing, and later to glass manufacture and innovation in the

smelting of metals. Resources from nearby Mendip added lead, calamine and ochre, all of which were processed within city boundaries.

Bristol's long sea-faring involvement proved a springboard for a wider interest in other methods of transport as they developed, with Brunel leading the way with his great ships and his Great Western Railway which followed Clifton Suspension Bridge. Sir George White later provided other connections with transport history when his early interest in urban electric tramways progressed to the establishing of Bristol's aeroplane industry. Features of the industrial archaeology of Bristol represent the wide spread of its industrial history from early to more recent times.

BS Harvey's Wine Cellars, Denmark Street

01 (584728) The cellars are believed to date back on this site to medieval times, when owned by the monastery of St Augustines. Harvey's created a museum from their central premises here after moving into the suburbs. The wine and sherry trade, its tools, bottles, fine glasses and all accoutrements are displayed.

BS Brunel House, St George Street (583728)

02 Recently renovated, the frontage survives from the hotel built at Brunel's instigation, to accommodate a proposed passenger service for those travelling from the Great Western Railway to embark on the SS Great Western.

BS Canons Marsh Gas Works (581724)

03 The shell of Bristol's first gas works built in 1816 survived at Temple Back until demolition in the early 1980s. Its rival at Canon's Marsh, originally established to produce oil gas in the 1820s eventually merged with the earlier company and became the main site. A classical office building and some bold pennant-sandstone remains of the working structures are all approaching dereliction.

BS Victoria Pumping Station, Oakfield Road

04 (577737) An early Bristol Waterworks pump-house which still retains in situ a 1912 Halthorn Davy inverted triple-expansion engine of 1912, a successor to earlier steam pumping equipment. The system is now electrically operated.

BS Goldney Tower, Goldney House, Clifton

05 (575727) Built by Thomas Goldney in



Goldney Tower, Clifton

John Powell

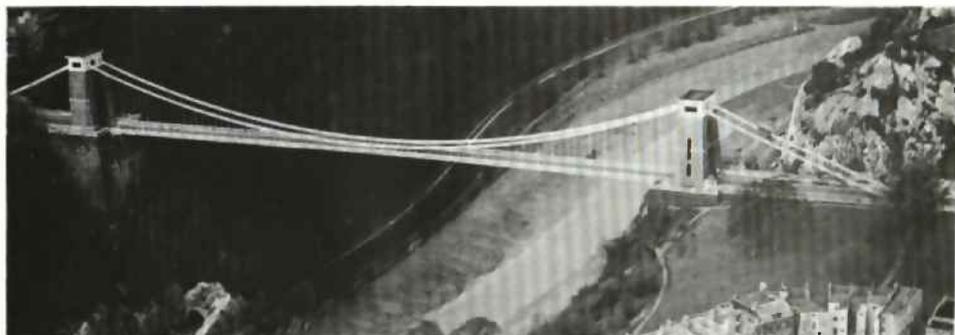
1764, this ornamental tower housed a small Newcomen engine used to pump water to the fountains and grottoes of his garden. Engine replacements suggest that it did not work successfully until 1766 but this building, now somewhat modified appears to be the oldest surviving steam-engine house in the country.

BS Clifton Suspension Bridge (565731)

06 Brunel's first proposals for the bridge met with complete rejection by Telford when adjudicating competitors' schemes but his modified design was eventually accepted. Work on the abutments, started in 1836, was abandoned a few years later through lack of funds. Only after Brunel's death

was the 630ft span of Clifton Gorge finally completed, again slightly modified, as a memorial to the great engineer. After its 1864 opening this spectacular bridge soon became one of the best-known symbols of Bristol.

- BS 07 Clifton Observatory (566733)** A camera obscura displays the surrounding countryside in the adapted shell of a former windmill. Built in 1766 as a corn mill, it was later converted to the processing of snuff which ceased after a disastrous fire in 1777. The observatory dates from 1828.
- BS 08 Clifton Rocks Railway (566729)** Along the Portway the lower entrance of the rocks railway still has its name displayed although the facade is much obscured by time and the mire of constant traffic. Opened in 1893 the system used the hydraulic water balance method of operation until closure in 1934.



Clifton Suspension Bridge

sections. This now forms the frontage of an arcade behind which is inserted a row of small retail businesses.

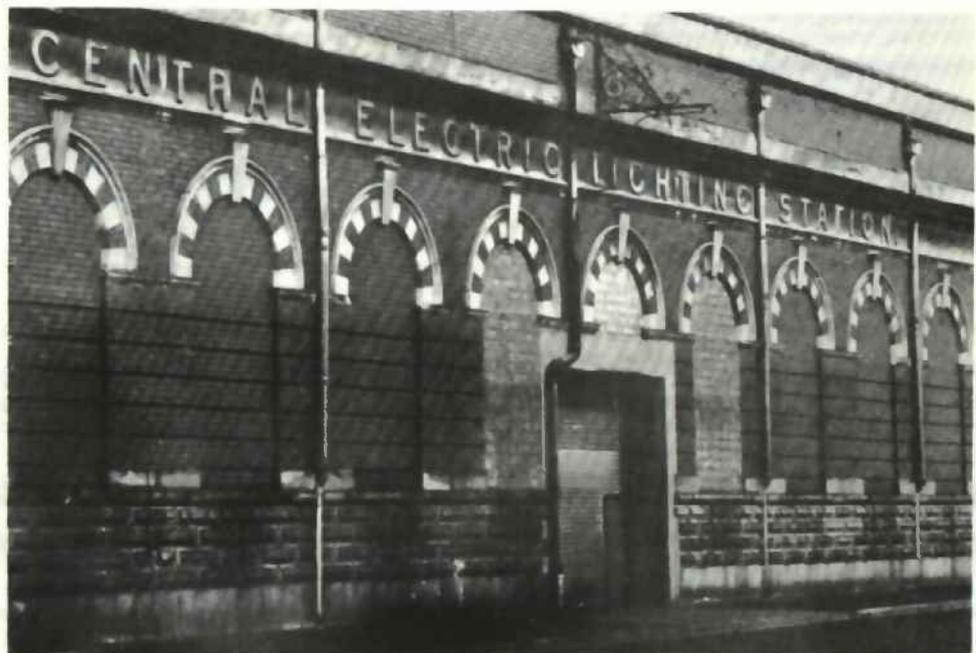
- BS 11 Redcliff Glass Cone, Prewett Street (593723)** The truncated cone of a glassworks, now adapted as a restaurant, is the sole surviving building of a once flourishing Bristol industry. Built c1870, it housed fertilisers and chemicals until the 1930s when the 60ft cone was reduced to its present height.
- BS 12 The Wool Hall, St Thomas Street (593726)** A stone-built warehouse constructed by R S Pope in 1830 exemplifies Bristol's last remaining connection with the West Country woollen trade of former centuries. This dignified building is now used as an inn.

- BS 09 Ashton Gate Tollhouse (573717)** A fine example of an urban tollhouse from Bristol Turnpike Trust which has been very well restored and incorporated into residential accommodation. A bow-fronted building with its veranda supported on slender cast-iron pillars.
- BS 10 W D & H O Wills Tobacco Factory, Bedminster (588718)** Having moved its main business to the Hartcliffe suburbs of Bristol during the late 1970s, great changes were inevitable at the company's great complex of buildings at Bedminster. During 1986-7 most of the premises were demolished leaving the facade of the 1884 Number One Factory, flanked by two later

- BS 13 Finzel's Sugar Refinery (592729)** A huge nineteenth-century building for processing sugar has now all but disappeared, its site having been engulfed by the growth of Georges Bristol Brewery, now Courages. A riverside wall of pennant sandstone with three high windows still survives as a relic of Finzel's factory.
- BS 14 Bristol Tramways Power Station (593729)** An imposing building constructed in 1899 to house the generating equipment of the growing Bristol service which had formerly been powered from Beaconsfield Road. (see below). This later building remained in operation until World War II bombing severed cables on nearby St Phillip's Bridge.



*above, Ashton Gate Tollhouse
right, Tramways Power Station*



Central Electric Lighting Station, Temple Back

- BS 15 Central Electric Lighting Station (594728)** This building, which still displays its title, opened in 1893 to supply private consumers and public street lighting, eventually housing eighteen Willans central-valve steam engines. By 1802 an additional electricity works was required at Avonbank in Feeder Road, which remained in use until 1955.
- BS 16 Jacob Street Brewery (595731)** A surviving section of a large stone-built complex of c1865 has recently been well restored and incorporated into modern business premises. The high window of the former engine house remains as do the rusticated arched entrances and windows.
- BS 17 Christopher Thomas soap works, Broad Plain (597728)** Brick-built with castellated parapets and corner turrets, now reduced in height, this c1845 building is the earliest of a group which housed the manufacture of Puritan Soap, now occupied by a furniture and DIY store. An 1865 stone building in Straight Street which displays bold rusticated arched entrances and windows was also part of the soap works complex.
- BS 18 St Vincent's Works, Silverthorne Lane (601725)** From mid-nineteenth century the galvanising business of John Lysaght progressed to being described as the largest of its kind in the country by 1873. Later in the century a grand neo-Norman entrance was added to the premises which still survives.
- BS 19 Old Temple Meads Station (595724)** The Bristol terminus of Brunel's Great Western Railway is the oldest surviving mainline terminus still virtually intact, and an outstanding historic railway monument. Threats of demolition in 1966 were thwarted and the building is now undergoing extensive restoration. Behind the highly decorative neo-Tudor facade, a cast-iron columned engine shed gives way to the train shed. The 72ft central span of the timber roof is flanked by 20ft aisles over the platform, all part of a cantilever construction often described as a hammerbeam roof from its superficial appearance.
- BS 20 Temple Meads tramways track (6596724)** At ground level, between Brunel's old station and the incline of the station approach, a length of track laid in cobbles still survives although rather hidden away.
- BS 21 Temple Meads Station (597725)** The present-day working station, built by Sir Matthew Digby Wyatt in 1878 accommodates the sharp bend needed to link the original routes of the GWR and the line of Bristol and Exeter Company. The clock tower lost its high Victorian roof during World War II bombing but the building is still an impressive accompaniment to, and often mistaken for, Brunel's original Temple Meads.
- BS 22 Bristol & Exeter Railway Offices (596724)** A neo-Jacobean style building, designed by S C Fripp, and completed in 1854. Demolition was thought to be imminent in the late 1960s but the building has since been renovated and the stonework cleaned, retaining the striking collection of railway architecture to be seen at Temple Meads today.
- BS 23 Three Lamps fingerpost, Totterdown, Junction of A4 and A37 (599718)** A fine cast-iron doric-columned post indicating the way to either Bath or Wells with cut-out lettering. It was replaced during 1986 after a long absence through road alterations and has now been refurbished and surmounted by three lamps at the instigation of the Bristol Civic Society.
- BS 24 Brislington Tram Shed (612715)** A long row of arched sheds built by the Bristol firm of Lysaght c1914 was approached through an imposing stone entrance block. Later used by the bus service, the tall iron gates still retain the Bristol Omnibus Company initials, but the building is now used as a depot for council vehicles.
- BS 25 Black Castle, Arno's Vale (611718)** Outbuildings and stables built mainly of copper slag blocks were added to Arno's Court in 1764 by the owner, William Reeve. He had married into the Andrews family, major partners of the Bristol brass company who were smelting copper at nearby Crew's Hole.
- BS 26 Engine Cottage, Brislington (620708)** This dwelling within yards of the A4 in Brislington, clearly converted from a colliery beam-engine-house illustrates the known records for coalmining activity in Brislington, although the history of this particular site is not known at present.

BS 27 Netham Alkali Works (619729) Bricked-up archway entrances through a high wall which once gave access from the riverside to the chemical works beyond are the main relics of a century of large-scale alkali production which closed in 1949.

BS 28 Crew's Hole Tar Distillery (628728) Originally, creosote was the main product produced here from coal tar from the 1840s, for the preservation of timbers used by the GWR. The manager, William Butler, later acquired the business and gradually increased the range of products. More recently passing to South-West Gas, then British Steel, the works closed in 1981 and the site was quickly cleared. The boundary walls still retain copper slag fragments of the earlier copper-smelting site once situated here.

BS 29 Crew's Hole coalworks (629729) A square chimney containing copper slag blocks sited at the bottom of Troopers Hill is from a former colliery enginehouse. Spoil from the mine can be seen further up the hill.

BS 30 Troopers Hill Chimney (628732) The pennant-stone chimney which creates such a landmark on the summit of the hill is from a sulphur-extraction flue system leading from the Crew's Hole copperworks of the eighteenth century.

Engine Cottage



BS 31 Tramways Depot and Power Station, Beaconsfield Road (623735) The stables and shed of an earlier horse-drawn tram service, established in 1875, were converted to use for electric trams in 1895 and a power station added. There are plans to demolish the building.

BS 32 The Old Poorhouse, St George (623738) An interesting old poorhouse built in 1800 was abandoned during the 1830s and converted to industrial use. After being used as a pottery, it was converted to a soapworks then occupied by Avon Tin Printers within more recent memory. It is now being used as an engineering works.

BS 33 Pin Factory, Two Mile Hill (640739) The traditional pin-making industry of the Bristol area was revived by eighteenth-century production of brass wire. Robert Charlton, quaker industrialist established a factory in the following century. Another factory at Staple Hill (644759) was later used by a ladder-making business.

BS 34 Whitwood Mill, Stapleton (625765) Traditional watermill sites have almost disappeared within city boundaries but traces can be discovered of a series of mills on the Bristol Frome above Stapleton, where snuff-grinding became the main activity. Whitwood Mill still retains some original masonry and a modified water-wheel together with an egg-ended boiler and flywheel from its latter days as a part steam-driven grist mill, all of which has been more fully revealed and conserved by a voluntary project of recent years.

BS 35 Filton Aeroplane Works (591783) The original offices of Sir George White's conglomerate of aeroplane companies, established in 1910, are still standing although dwarfed by the enormous growth of the industry since its establishment. In this complex but just outside the city boundaries, stands the Brabazon Hangar (595799) built specifically for the construction of the ill-fated Bristol aircraft but now used for contemporary projects.

BS 36 Reinforced concrete railway bridge, Hallen (546798) A bridge carrying the Avonmouth Docks to Filton line over an accommodation road near Hallen was the first mainline railway bridge to be built of reinforced concrete in Great Britain. Using the Hennebique system it was constructed in 1907.



Black Castle, Arno's Vale

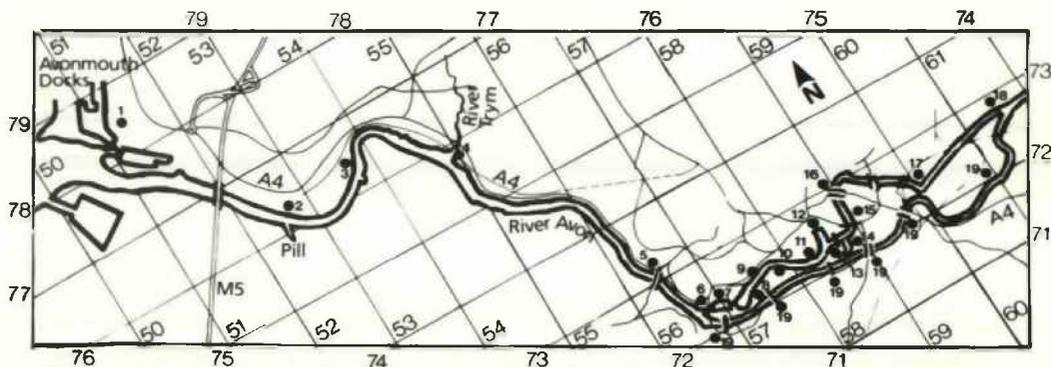
- BS 37 Stratford Mill**, Blaise Castle House Museum (562784) A typical small country grist mill with an undershot wheel driving one pair of stones retains much of its timberwork although reconstructed here. It was dismantled from the bed of Chew Valley Reservoir before flooding for rebuilding at the museum. Displays in the museum also include material from Fry's chocolate works, pinmaking machinery and other items of industrial interest.
- BS 38 Cast-iron footbridge**, Kingsweston Lane (545773) A small footbridge erected for the Kingsweston estate is of the attractive circled-span design used extensively by the Coalbrooke Company, but its date and provenance are so far unknown.
- BS 39 Tram Depot**, Westbury (573766) A small shed from the urban electric tram era is still recognisable in its adaption to garage premises.
- BS 40 Horfield Tram Shed** (594764) Less obviously showing its original purpose in

its adaption to business premises, this tram shed is situated north of the Church Road junction with Gloucester Road.

- BS 41 Railway Bridge**, Cheltenham Road (588746) Clifton Extension Railway opened in 1874 linking the Avonmouth line to the route from Bristol to South Wales by means of an extensive tunnel beneath Clifton Downs and this handsome iron bridge.
- BS 42 The Academy/Plaza**, Cheltenham Road (592742) Of the many city cinemas which have been abandoned for their former purpose, the Academy which opened in 1914, later to be called the Plaza, still retains its original appearance. It now houses a Christadelphian Hall.
- BS 43 Stokes Croft Carriageworks** (592740) Designed in 1862 by Edward Godwin for the Perry carriage-building business, this dignified building in typical Bristol style was later occupied by Anderson's rubber factory. It has been restored in recent years in its re-adaption to modern business premises.



The former Academy/Plaza Cinema, Cheltenham Road



Bristol's Port (BP) A part of Bristol City Map 2a

Bristol's Port

Early efforts to improve the port's facilities in the natural course of the River Avon were first made in the thirteenth century. The River Frome was diverted from its curving course round city boundaries through what is now known as The Centre and St Augustine's Reach, creating the present-day confluence with the Avon. A fine harbour was provided where ships could bottom on mud at low tide, rather than stones of

the river. Although most of this artificial trench has now been culverted to form the traffic-strewn Centre, St Augustine's Reach remains as evidence of this great medieval undertaking. In following centuries the difficulties caused by wide tidal fluctuations became more intensified as ships grew larger and pressure in the busy harbour increased. Small-scale efforts at improvement were attempted during the 1700s but by the close of that century the situation was serious enough to force a major decision on the measures needed.

Between 1804-9 William Jessop undertook the construction of the Floating Harbour by damming the old course of the Avon and enabling vessels to remain afloat at all stages of the tide. He provided a system of entrance locks from the tidal approaches and excavated the New Cut to bypass the old river course, taking the tidal fluctuations. Some of his original structures were modified by Brunel in the 1830s-40s and further features were added in the 1870s-80s bringing the harbour more up-to-date. Nevertheless, the present-day configuration of the City Docks is basically as Jessop originally planned it for Bristol.

The attractions of the inland port at the heart of the city gradually diminished as the nineteenth century progressed. Navigation of the tidal river approaches created growing problems as vessels increased in size. After considerable controversy the dock at Avonmouth was completed in 1877, followed by Portishead two years later. Both built by private enterprise, they were later absorbed by the Port Authority who concentrated on development at Avonmouth in subsequent years until the opening of the new container dock at Royal Portbury on the opposite bank of the Avon.

The Tidal River

BP Avonmouth Docks (512780) Following the opening of the Avonmouth Port and Pier Railway in 1865, amid much controversy private enterprise undertook the construction of Avonmouth Dock which was completed in 1877. It was later incorporated into the Port of Bristol Authority and a much larger extension added in 1908 named the Royal Edward Dock, which was further enlarged in subsequent years. Much of the intense development which took place in the surrounding area has become redundant with the more recent changing patterns of trade but normally, is inaccessible to public viewing. (*For Portishead Dock, see under Woodspring*).

BP Lamplighter's Ferry, Shirehampton (526763) An ancient crossing of the river here was used until the M5 Avon Bridge was constructed as the only means of local access between Shirehampton and Pill, on the southern bank of the river where Bristol's pilot service was based. The causeways can still be seen. (*For Pill, see under Woodspring*).

BP The Powderhouse, Shirehampton (537765)
03 Deliberately isolated, this riverside wharf and warehouse was established in the mid-eighteenth century to provide safe gunpowder storage for vessels entering the city's port.

BP Sea Mills Dock (550759) Remains of the harbour wall constructed by John Padmore in 1712 still survive on either side of the River Trym near its confluence with the Avon. This was an early attempt to overcome the excessive tidal ranges by providing a dock with a constant level of water. It failed commercially because of its distance from the city.

BP Avonmouth Port & Pier Railway The city terminus for this line was a station built almost under the shadow of Clifton Suspension Bridge, in use from 1865 until superseded in 1921. Tunnelling through the cliffs of the Gorge is still apparent at (564735) and (564733).

The Floating Harbour

BP Entrance Locks Access through the two locks provided by Jessop from the tidal approaches to the harbour soon proved too narrow for the growing size of vessels. His narrow **southern lock** (568723) was widened from 33ft to 54ft by Brunel in 1848, giving a distinctive U-shaped section and a pair of single-leaf wrought-iron gates. These nested into crescent-shaped indentations in the lock wall which still remain. Brunel also added a newly-designed swing bridge with a tubular girder construction to span his new lock. Jessop's remaining north entrance was eventually blocked and used by Howard in 1884 to site the 'Gridiron', (567723), a timber framework, still visible at low tide, on which vessels moored for minor repairs between tides. In 1873, Howard had superseded the old north lock by a new **North Entrance Lock** (567725) on an improved alignment from the river approaches and at increased dimensions of 350ft by 62ft, taking the largest vessels capable of navigating the river.

BP Cumberland Basin (570723) The basin remains very much as built by Jessop, still even with troublesome subsidence experienced by him at the north wall during construction. Because of the extra costs this entailed, only one **Junction Lock**

(572722) was built from the south side of the basin to the main harbour. This is now blocked but a row of attractive Dock-workers' cottages dated 1831 remains alongside. Howard constructed the large North Junction Lock c1873, building his hydraulic enginehouse (572723) there. This housed the new Armstrong pumping equipment for the system which opened the lock gates. It now houses the Pumhouse Inn.

BP 08 **The Underfall Yard** (572722) The old course of the Avon was dammed here by Jessop but his weir caused silting problems in 1834 Brunel drove culverts through the dam so that mud could be sluiced through them. His 'underfall' system is still in use. Port of Bristol workshops were built here in the 1880s which still contain a fine collection of machine tools installed with the building, including a twin-cylinder horizontal Tangye steam engine. A brick-built hydraulic enginehouse of 1887 replaced the North Junction Lock plant which was proving inadequate for the expanding system. Its steam pumps were superseded by the electrically-operated ram pumps in 1907 which are still working a limited service round the harbour.

BP 09 **Hotwells Dock** (574724) Of late eighteenth-century construction, this small dock was one of the minor efforts to improve port facilities prior to the Floating Harbour. It is still used by the sand trade. Just down-

stream, the entrance only survives of the much larger **Merchants Dock** (573724) built by William Champion in 1765, later occupied by G K Stothert's ship-building firm but filled in by 1962 and subsequently built over by a housing scheme.

BP 10 **Albion Dockyard** (576724) On the opposite bank of the harbour the Hillhouse family built ships in the yard which later was occupied by Charles Hill & Sons. It is now busy repairing, building and mooring pleasure vessels but the former manager's house survives, and workers' cottages c1830 in **Sydney Row** (576723). The yard also encompassed the Great Western Dock, a dry dock built c1839 to construct the **SS Great Britain** (578724). Launched in 1843, the first large wrought-iron screw-driven vessel, she returned here to her place of origin in 1970 for an inspired restoration project, and was made available to public viewing. Near the entrance, the City's Maritime Heritage Museum houses material based mainly on collections assembled by the family of the Charles Hill Company.

BP 11 **Canons Marsh** Descriptions of this area are likely to become outdated quite soon but with one development project following another it is impossible to anticipate the survival of any features. At the time of writing

SS Great Britain returning from the Falklands Bristol Evening Post





SS Great Britain undergoing repairs in the Great Western Dock

John Powell

the reinforced-concrete **tobacco bond warehouses** (584723) c1920s still dominate the scene. Behind them, the large area of the former **Canons Marsh Goods Depot** awaits redevelopment, its station, completed in 1908 for the Harbour Railway, being another of Bristol's early reinforced concrete structures. **The Y and Z Transit Sheds** (583723) at the waterfront are the earliest-known buildings in this category, believed to have been built c1904. The adjoining derelict area of the **Canons Marsh Gas Works** (see under *Bristol*), is all part of the former dockside scene which is soon likely to disappear. From here a good view can be had of the **Stoher & Pitt steam crane**. Built to a design with a curved jib patented by Fairburn, it was capable of lifting 35 tons. It was restored to a limited working condition for its 1976 centenary.

- BP 12** **St Augustine's Reach** Neptune's statue (586728) stands at the head of the visible remains of the medieval great trench which diverted the Frome to its new confluence with the Avon. The **late-nineteenth century transit sheds** on the west bank have assumed a new lease of life in recent years with conversion to modern uses, the decorated gable frontage of E Shed being

restored in a scheme to accommodate the Watershed media centre. On the opposite bank the buildings are mostly new apart from the former **sail-loft at 16 Narrow Quay** (586725) and the **Bush Warehouse below**, at (586724), in the most prominent position of the whole dockside. Built c1830 as a tea warehouse and enlarged in 1847, this fine building was threatened with demolition in the early 1970s. The splendid restoration scheme which emerged from the planning controversy now houses an art gallery and business premises and gives an appropriate focal point to the dockside scene.

- BP 13** **Prince Street Bridge and Prince's Wharf** The hydraulically-operated **swing bridge** at (586723) can still be activated by means of the piped system from the Underfall Yard pumphouse. It also has its own small electrically-powered hydraulic accumulator tower in the **timber Italianate-styled building** on the abutments of the bridge. The large post-war Transit Shed on Prince's Wharf (585723) accommodates **Bristol's Industrial museum**, with its exhibits mainly concentrating on the transport history of the city. On the wharf stands *Henbury*, the Bristol-built **Peckett locomotive** which is manned by a volunteer group to give passenger rides

to the *SS Great Britain* on high days and holidays. At the water's edge the *ST Mayflower*, the Bristol-built tug is undergoing an extensive restoration scheme. Other privately owned vessels of historic interest are moored here from time to time. The **four Stothert and Pitt Bath-built cranes** were saved from destruction by further voluntary effort. In the section of L Shed adjoining the road, the **National Lifeboat Museum** is housed. A plaque mounted at high level on the end of this building commemorates the launching of Brunel's *SS Great Western* which took place from this site of Patterson's boatyard in 1837.

- BP 14 Bathurst Basin (587721)** An additional entrance lock, basin and junction lock was provided by Jessop for small vessels when high water gave access up the New Cut. The Entrance Lock was blocked during World War II to prevent possible drainage of the docks but the basin is still used for mooring pleasure vessels gaining entrance from the Floating Harbour. Although no longer used, the **hydraulic mechanisms** for opening the entrance lock gates and swing road bridge are still visible at their original sites. The facades of distinctive '**Bristol Byzantine**' warehouses of Robinson's oil mill have been successfully incorporated into new housing development on the north-west side of the basin. On the eastern flank the **General Hospital had commercial buildings** at ground-floor level alongside the dock which still have traces remaining. The remains of broad-gauge railplates, at the site of the former Harbour Railway steam-operated bascule bridge, where it crossed the junction lock, were removed during 1985 when the modern swing bridge was constructed, but the **entrance to the tunnel** giving access to Temple Meads Station is still visible from the lockside wall.

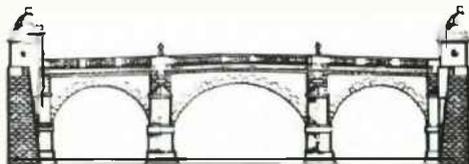
- BP 15 Welsh Back and Redcliff Back warehouses** The **Western Counties Agricultural Association building** at (590724) is a reinforced concrete warehouse c1909, built in unusual style which incorporated similar features to the more traditional late-nineteenth century WCA warehouse which it replaced. There are hopes that this building will eventually be converted to dwelling accommodation. On Redcliff Back nearer Bristol Bridge Buchanan's Warehouse was originally built as a granary and mill for Proctor Baker in 1883 and badly bomb-

damaged during World War II, but plans are in hand to incorporate it into modern development. At Welsh Back on the opposite bank, Pearce's Granary, (589726) built by Ponton and Gough in 1865 using multi-coloured brickwork, is regarded as the epitome of Bristol Byzantine style of architecture.



The Stothert & Pitt steam crane

BP 16 Bristol Bridge (590729) Designed by James Bridge to replace the medieval stone bridge and completed in 1768, this triple arch masonry bridge was widened in 1870 by walkways supported on iron columns which obscures much of the original structure. It creates a barrier to navigation by larger vessels upstream of the bridge so that the remaining stretch of the Floating Harbour was served mainly by barge traffic. Just above the next **bridge St Phillips (593729)** a modern shot tower replaces the first ever built on Redcliffe Hill, demolished in 1968.



BP 17 Totterdown Basin and Locks (599723) The Totterdown Basin marks the upper limit of the Floating Harbour, from which access was provided for small vessels to the New Cut and to the Feeder Canal. The entrance lock from the cut was blocked during World War II but the entrances can still be identified from both the basin and the cut. From Totterdown to Netham the

Pearce's Granary, Welsh Back



tidal waters of the New Cut occupy the natural bed of the river, while the Floating Harbour is supplied with fresh water through the mile straight of the Feeder Canal. The five-storey block of the huge **Great Western cotton factory** was sited about half-way along its length from 1838 to 1968. Now only its single-storey weaving sheds, entrance and yard remain.

BP 18 Netham Lock and Weir At the far end of the Feeder Canal the Netham Lock (616727) gives way to the natural course of the River Avon. Just below the confluence, Netham Weir (616726) built by William Jessop and later raised in height on Brunel's advice, keeps a supply of water available to flow through the Feeder Canal and on through the Floating Harbour. Netham Weir is the head of the normal tidal stream but high spring tides reach the next weir upstream at Hanham.

BP 19 The tidal Avon and New Cut Downriver of the Netham Weir the Avon passes beneath a small **Lysaght's suspension footbridge** (610719) joining Arno's Vale with Evan's Park. At Totterdown (603717) a more substantial **Lysaght's girder bridge** crosses the river before it turns north towards Totterdown Basin to join the man-made

course of the New Cut. **The Bath Bridge** (597723) replaced a cast-iron structure designed by Jessop which collapsed during building. It was rebuilt and then later was destroyed when hit by a barge at high tide. A bridge at Bedminster of similar design survived more successfully to be replaced by the present **Bedminster Bridge** (590720) in the 1870s. The **entrance to Bathurst Basin** is apparent at (586721), and just below this the New Cut is spanned by another small **suspension footbridge** (585721) built to replace the Old Gaol Ferry. **Vauxhall Footbridge** (576721), opened in 1900, was a swing bridge operated hydraulically from the Underfall Yard as was the next bridge downstream, **Ashton Swing Bridge** (568721) This bridge which formerly carried a road on its top deck and the Harbour Railway below was Bristol-built by Lysaght's and opened in 1906. It now only carries a single line of the diminished Harbour Railway, and is said not to have been opened since World War II although this has been disputed. Three large brick-built tobacco bond warehouses dominate this final section of the New Cut. Just below, the **approaches to Rownham Ferry** (567723) are revealed at low tide, placed here after Howard's North Entrance Lock to the Floating Harbour made the old site impractical

Kingswood District

The District is based on part of the medieval Kingswood Chase, a scrubland area on the outskirts of Bristol, gradually usurped by those wishing to exploit its valuable coal resources which were first recorded in the thirteenth century. Coal formed the background on which industrial activity developed, bricks were made and metal worked and smelted. Coal-fired copper smelting began at Conham in 1696. The Warmley works of William Champion formed the site of the first large-scale zinc-smelting furnaces in works that were highly innovative.

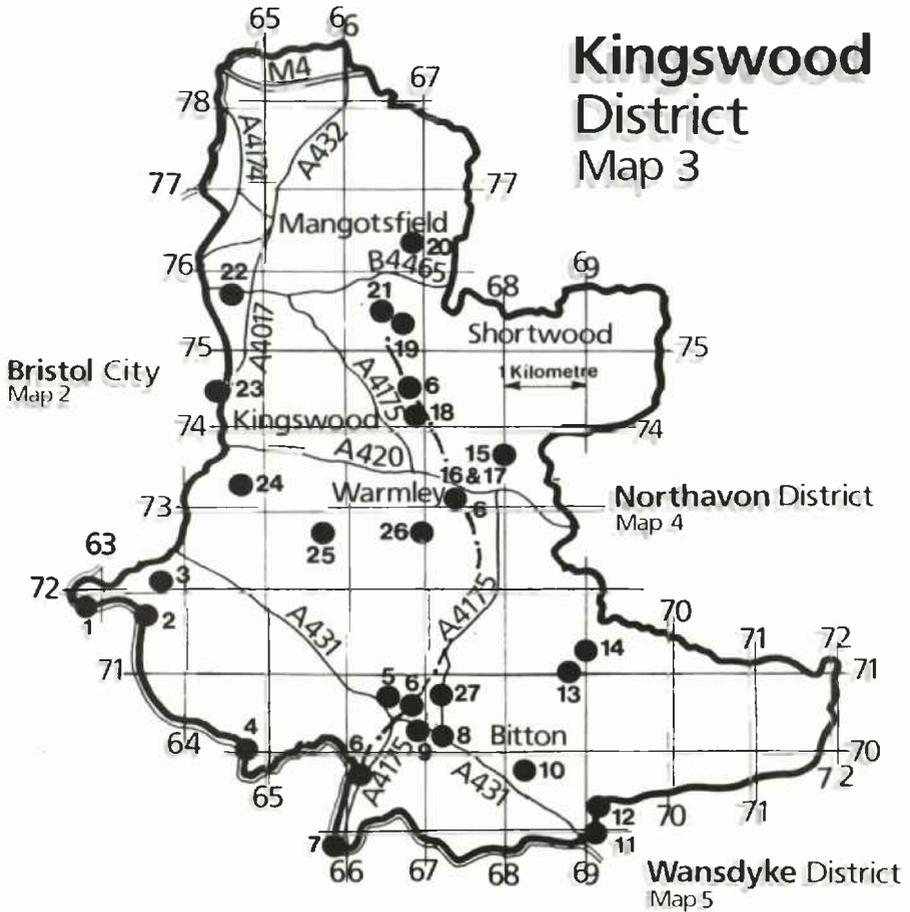
By the nineteenth century the local craft of bootmaking was being extended to that of a major industry occupying a large number of brick-built factories in Kingswood and the eastern areas of the city. At the end of the century over eleven thousand people were said

to have been employed in boot and shoe manufacture. Coal mining continued at Hanham until the late 1920s, and survived another decade at larger works just outside Kingswood District within the city boundaries.

In the more rural areas remaining to the east of the district and along the boundaries of the Avon, millsites of the river and its tributaries have added to the scope of past industrial activity which has been recorded in Kingswood.

KG 01 Conham Copperworks (629719) Abraham Elton and Gabriel Wayne set up works at Conham in 1696 for the smelting of copper with coal fuel. In the following century the works was amalgamated with those of the Bristol brass company who continued to use it in conjunction with their nearby smelter at Crew's Hole until the late 1700s. Copper slag blocks, incorporated into later buildings on the site are the main reminders of the industry.

Kingswood District Map 3



KG Hanham zinc smelter and brass works

02 (635718) James Emmerson, former manager to William Champion at Warmley, started new works for zinc smelting on the banks of the Avon at Hanham in the 1770s. He also made high-quality brass by using metallic zinc, at the time regarded as an innovation for industrial production of the alloy. After his bankruptcy in 1803 the works were continued under new management until closure in the late 1830s. Remains are believed to lie buried under the spoil heap of Hanham Colliery.

KG Hanham Colliery, Memorial Road (638721)

03 A horizontal windinghouse of the colliery

which closed in 1926 has been well converted as offices for a diecasting company. Extensive spoil at the rear of the site over which a steep incline was built down to a riverside wharf is still apparent.

KG Hanham Mills (648700)

04 One of the oldest millsites in the Kingswood District, described as a fulling mill in medieval times, it was advertised as two complete grist mills with five pairs of stones in the 1790s but probably not worked afterwards. Some derelict masonry remains at the northern end of this lowest of the ancient weirs on the Avon which was bypassed by the Avon Navigation on the opposite bank in the

1720s. The lock now comes under the Kennet & Avon Canal, marking their lowest limits below which the tidal river is administered by the Port of Bristol Authority.

KG 05 Willsbridge Mill (665707) This millsite on the Warmley Brook had a large millpond to power an iron rolling mill from 1712. A descendant of the early owner, Thomas Pearsall patented an iron-hooped roofing method which proved a failure and bankrupted him. The resulting sale also referred to steel manufacture at the site. During the 1800s the site was converted to a grist mill which ceased working in 1968. In recent years it has been adapted as a Wild Life Centre, and the millpond has been drained for safety.

KG 06 Avon & Gloucestershire Railway A horse-drawn tramway for transporting coal from the Mangotsfield area to the Avon near Keynsham opened in 1832. Many features have been obliterated in the last twenty years but those remaining include: **Avon wharf** and **Londonderry wharf** (662698), both with small stables and weighbridge houses; **Willsbridge coal sales depot** (666703), brick-built and of later date, and **Willsbridge tunnel portals** with approaches through deep cuttings (667705-7); a **steep incline** from the former California Colliery (666709) and following section above a high retaining wall; a **deep cutting with over bridge** near Warmley Church (674731); approaches to Siston Common with **over bridge** (669738); a well-defined **embankment** curving over Siston Common (667743) towards Mangotsfield where the route merged with the Bristol and Gloucestershire Railway in a joint line to Coalpit Heath.

KG 07 Keynsham Lock (659691) The navigation lock bypassing Keynsham's Avon Mill weir is to the north bank and thus entirely in Kingswood District. It retains the small road bridge c1810 which replaced an earlier structure but, today, it only gives access to the lock-side inn. The breaching of the medieval county river bridge in 1968 floods brought about a modern replacement and new section of road which left the inn and canal bridge isolated.

KG 08 Bitton-Wick-Oldland direction stones A distinctive series of corner stones engraved with pointing hands to local destinations survive at several sites near

Bitton, some on quite narrow country lanes. Most prominent are those on the B4427 junctions with A431 at (666704) and (673702) but others are on the small lanes in the Upton Cheyney and Beach area, particularly at (699710), with no apparent connection with the turnpike system.

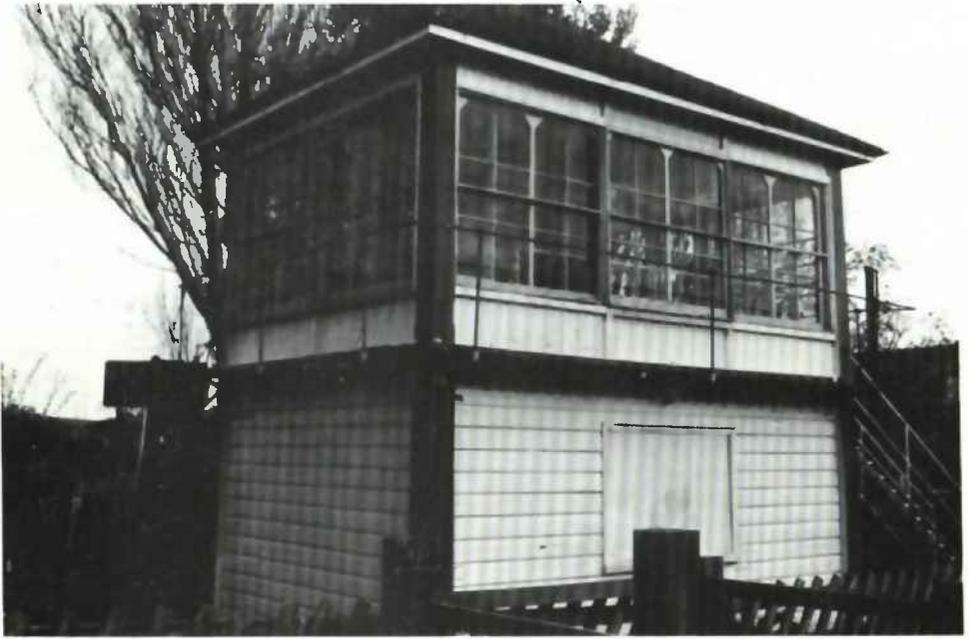
KG 09 Bitton Station, A431 (670703) This former Midland line station en route between Mangotsfield and Bath is now the headquarters of the Bitton Railway Centre, where both steam and diesel engines are undergoing restoration. The Bristol-built Peckett Forman of 1924 and 1922 Manning Wardle Littleton are in service for steam days on the mile of restored track every first Sunday of the month from March to November, in addition to bank holidays.

KG 10 Bitton Mill (682698) William Champion's company made brass hollow-ware at Bitton in the latter years of his work before bankruptcy. The Bristol brass company continued production but by 1825 the site was converted to paper making by the Bevan family from a mill on the River Boyd upstream. This developed to a large-scale manufacture until the late 1960s. The mill pond has now been drained for flood prevention.

KG 11 Swineford Mill (691689) Another early fulling mill on the Avon which was adapted to roll copper sheet by John Coster in 1709. Later additions to buildings by his successors still bear plaques to the J[ohn] F[reeman] & Copper Company in 1840, but by 1859 the site was sold to lead manufacturers, later converted to a flock mill and then to light engineering. Two 22ft 6ins dia waterwheels are still in situ.

KG 12 Swineford Dyewood/Colour Mill (691692) Well-documented references to the processing of dyewoods at Swineford may just possibly be relevant to part of the cop per-mill site above, but more likely refer to the small mill site on Pibley Brook where a picnic site has now been established. The grinding of ochre was carried out here by the late nineteenth century.

KG 13 Golden Valley or New Mill (689710) An ancient millsite on the Boyd whose owners were in litigation with those of Boyd Mill downstream in the early 1800s about the increased height of Boyd Mill weir. Used for paper manufacture by the Bevan family until 1825, and later converted for the processing of ochre.



The signal box at Warmley

KG Painter's Pit, Golden Valley, Bitton (690711)

14 A ventilation furnace and chimney built c1840 over an earlier shaft has been cleared of ivy and repaired, the shaft made safe and an adjacent platform of a horse gin revealed. This work carried out by a small volunteer group has warranted the site being scheduled as the last surviving example of this type of coal-mining ventilation.

KG Webb's Heath Colliery, Bridgegate (680737)

15 The brick-built remains of an early nineteenth-century small-scale boilerhouse, chimney and haulage-enginehouse are almost obscured by ivy and so tend to be overlooked. An unusual example in this area of a small drift-mine layout.

KG Crown Colliery, Warmley (673735) A small

16 horizontal windinghouse and other colliery buildings built in the late nineteenth-century have been converted to other uses, the chimney being dismantled in 1981. In the eighteenth century the site belonged to William Champion's Warmley Company.

KG Warmley Station and Signal Box (671735)

17 A small timber waiting room structure on the old Midland line station between Mangotsfield and Bath remains in situ to the east of the A40. On the far side of this road, once a level crossing, the signal box still survives, now a Grade II listed building, on this route of the public cycle and walkway.

KG Cider Mill, Siston Common (667742) A

18 small building adjacent to the line of the Avon & Gloucestershire Railway is marked as a cider mill on maps c1830s. The bowed walls along either length suggest the use of a horse mill for crushing cider apples and, possibly, at a different period, a horse gin for winding coal from small-scale coal working on the common. The railway embankment cuts through part of an apparent bell-pit mound a few yards away at (667743).

KG Carson's Chocolate Factory, Mangotsfield

19 (668753) A large brick factory was purpose-built for the making of chocolate when Carson's moved here from Glasgow in 1913. The name, prominently displayed at high level on the building was a salient

feature viewed by passengers through Mangotsfield Station. It was occupied and extended by DRG paper manufacturers during the 1970s.

KG 20 Bullers Pit or Church Farm Deep, Mangotsfield (668763) A nineteenth-century colliery site with the shell of a beam pump-house which is gradually disintegrating. It formerly displayed a datestone of 1881 above the bob arch.

KG 21 Mangotsfield Station (666754) From its closure and abandonment in 1966, the once busy, bleak junction of the Midland Railway's Gloucester to Bristol line, from which the branch departed to Bath, has now gradually reverted to the appearance of a nature reserve. A few identifiable structures emerge above the undergrowth to interest the railway historian as he passes along the cycleway formed from the old alignment.

KG 22 Bristol & Gloucestershire Railway (646758) The horse-drawn tramway planned concurrently with the A & GR (*above*), also for transporting coal into Bristol, was completed a few years later and then quickly converted to steam locomotion as part of the line through to Gloucester and the north. This Midland line was closed by British Rail in 1966. The route within its territory was eventually purchased by the District Council for recreational purposes, including a cycle and walkway which has been constructed from the site of Staple Hill Station, through a short length of tunnel, to link up with the branch line to Bath.

KG 23 Boot and Shoe factories, Kingswood Just outside the official boundary of the District, Britton's large factory at Lodge Road (644743) represents the lone survival of the, once, very extensive industry of boot and shoe manufacture. Based to the east of Bristol through St George, Two-Mile Hill, Soundwell and Kingswood, it is said to have employed over 11,000 people in 1900. In Hill Street (655737) and Cecil Road (647736) brick-built factories survive which once housed well-known Kingswood firms. In Waters Road just outside the district, a group of buildings (643739) have now adapted to other uses, including the manufacture of foundation garments, another industry which has been well represented in the area east of Bristol.

KG 24 Douglas Motorcycle Company, Kingswood (647733) The offices of this former company in Hanham Road and their works between there and Forest Road are now occupied by the Westinghouse Brake and Signal Company. Although famous for their motorcycles, the company started as ironfounders before the turn of the century and their drain covers, manhole covers, lamp standards can be observed in many parts of the area

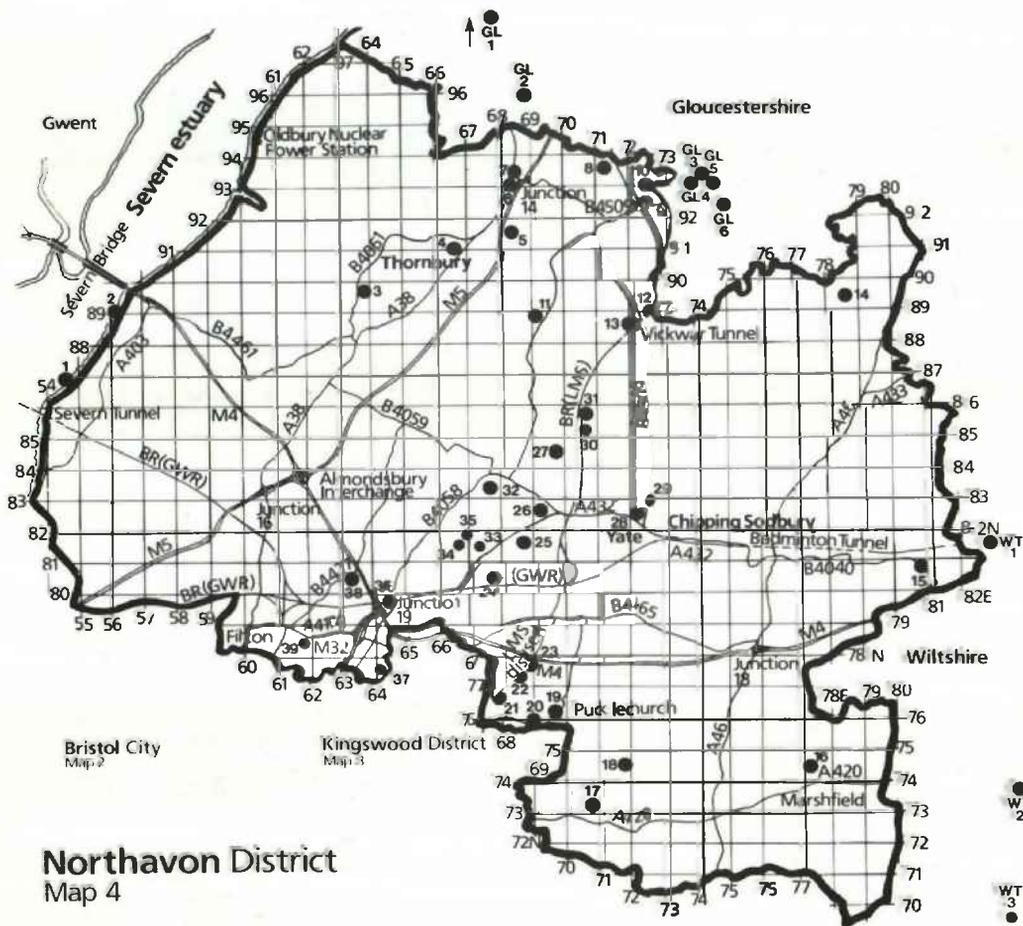
KG 25 Cock Road engine house, Hanham (658728) A small vertical winding house, unusual in this area, once serving two shafts of Batchellor's or Thompson's pit, one either side of the road. The bob arch has been bricked up and the building adapted for other use.

The clock-tower building, Warmley



KG 26 Warmley Works, Tower Road (670728) William Champion established a new site at Warmley in 1746 to exploit his patent for the production of metallic zinc in the first commercial large-scale production in Europe. He also carried out the whole range of processes in the manufacture of brass and copper wares, from the smelting of ores to the making of completed goods by water power. A Newcomen engine was used from 1749 to recycle water for turning his waterwheels, returning it to a newly constructed reservoir which is now drained. His windmill for crushing ores still has the tower remaining and a large clock tower building, housing his manufacture of pins has been converted to other uses.

KG 27 Cherry Gardens Tollhouse (673706) A small hexagonal-fronted turnpike house built of local blue lias limestone remains on a route opened up c1820. Now used as a private dwelling.



Northavon District
Map 4

Northavon District

Between the Cotswolds and the banks of the Severn north of both Bath and Bristol lies a broad expanse of country that is mainly rural. In its central section coal measures extend from Bristol almost to the borders with Gloucestershire in which overgrown spoilheaps and a few scattered remains of ruinous or adapted colliery buildings can still be seen. Brickworks and their claypits, mainly associated with the coal measures, have also left their remains in this area, where semi-engineering bricks of high quality were

produced. Fewer identifiable features survive from the extraction of celestite because of a policy of land reclamation associated with the industry. Between Yate and Wickwar, the major source in the country for this strontium hydroxide material has been worked from the late nineteenth century. This still continues, as does large-scale quarrying, today mainly for roadstone, which has left some huge excavations in parts of Northavon.

Along northern borders with Gloucestershire, the Little Avon River is partly within the district where millsites are situated

but the Bristol Frome is the major stream draining the central area. In its upper reaches the function of its millsites was mainly the grinding of corn but further south some iron working and snuff grinding was also carried out.

Major roads from Bath and Bristol to the North have left many turnpike features, added to by cross-country routes including those to Severnside for the traditional ferry crossings. Old Passage Ferry joined the ranks of industrial archaeology in 1966 with the opening of the Severn Bridge, just as New Passage became redundant some 60 years before with inauguration of the Severn Valley tunnel. The area adjoining the banks of the Severn otherwise is fairly inaccessible. Small-scale manufacture of bricks has been carried out but farming is the main industry with a local tradition of making both cheese and cider. Perhaps Oldbury nuclear power station with its out-dated Magnox system might provide a future phase of industrial archaeology in Northavon.

NA 01 **New Passage Pier**, Pilning (544865) The Bristol & South Wales Union Railway opened its line to the banks of the Severn at New Passage in 1863. Only the masonry approaches remain, now modified, from the timber pier which carried the railway for its passengers to join the steam ferry crossing of the river. **New Passage Hotel**, (545865) was a necessary adjunct for those awaiting the tides or good weather. The opening of the Severn Tunnel brought this mode of travel to an end.

NA 02 **Old Passage Ferry**, Aust (563890) A timber pier slowly disintegrating marks the site which is believed to have been the ancient crossing of the Severn as far back as Roman times. The pier was built for the car ferry, planned in 1926 but which eventually came to fruition in 1931. It closed in 1966 with the opening of the Severn Bridge which overshadows the site.

NA 03 **Thornbury Station** (638897) A branch line from Yate on the Midland line opened through Iron Acton and Tytherington to Thornbury terminus in 1872 and closed in 1966. The route back from Tytherington is now utilised by quarries as a mineral line. An earlier mineral line formerly branched from **Iron Acton** (676834) southwards over a cast-iron bridge to the iron mines at Frampton Cotterell.

NA 04 **Lower Buckover farm wheel**, near Thornbury (666910) A 14ft dia iron over-shot waterwheel geared to a belt drive was last used to prepare cattle feed c1958. It remains in good condition with the possibility of being used again.

NA 05 **Whitfield Example Farm**, Falfield (684916) Extensive farm buildings can be seen from M5, the remains of a double courtyard which constituted the model farm built on the estate of the Earl of Ducie in 1839. A high-pressure steam engine for threshing and winnowing was installed here and a tramway system for the easy transport of materials around the buildings.

NA 06 **Falfield windmill tower** (684930) The tapered straight-sided stone tower of this mill, described as having been built in 1708 on its inscription stone can be seen from the A38 and also from the M5 at the Falfield exit. It was converted to a dwelling after work ceased in the 1880s.

NA 07 **Falfield Mill** (686933) A traditional corn mill on a tributary to the Little Avon retains its iron waterwheel almost complete and its gearing to two pairs of stones in surprisingly good condition although the stones furniture is missing. The mill has worked within living memory although little is known of its history.

NA 08 **Huntingford Mill**, Charfield (716935) A nineteenth-century mill building, now a restaurant, which was using waterpower to produce cattle feed until the 1960s. Its machinery has now been removed but one overshot waterwheel is incorporated into the decor, another remains below floor level. The site was used for paper-making during the early nineteenth century, and earlier in the woollen industry.

NA 09 **Charfield Station** (723922) Closed in 1965, Charfield remains the most complete of the small stations on the old Midland line between Bristol and Gloucester, now in use only north of Westerleigh. The disused alignment towards Bristol had been superimposed in 1844 along the horse-drawn tramway from Coalpit Heath.

NA 10 **Charfield Mills** (723930) A large complex of buildings including two stone-built five-storey structures survive on the Little Avon just at the outskirts of Charfield. Cloth manufacture has been carried out here and pins have also been produced in buildings which have since been used for engineering purposes.

NA 11 Cromhall Engine Colliery (692889) A derelict stone-built enginehouse still remains by a shaft at the edge of a long low area of tree-grown spoil. Coalmining near Cromhall is recorded from the eighteenth century.

NA 12 Wickwar Cider Factory (725890) A large range of pennant sandstone buildings survive from this former cider-making complex which has now been converted to a small trading estate.

NA 13 Wickwar Malthouse (724887) Built with some style, this pennant-sandstone maltings still has its kiln structures at either end, although it is now incorporated into garage premises.

NA 14 Kilcote Mill (786894) On a small stream which flows into the Little Avon River this traditional mill at Lower Kilcote has been restored back to working order after falling into disrepair. Its high-breast iron wheel is fed from a large millpond to drive a single set of stones. The mill house and barn contribute to an attractive setting.

NA 15 Acton Turville Tollhouse (809808) A fine ashlar two-storey house at the village centre. Its hexagonal frontage displays a clock above the tollboard position. Other tollhouses in similar style apart from the

clock can be seen nearby at: (785797) on the road to Tormarton; at (758784) at Tormarton approaching the B4465 to Codrington; at Oldfield Gatehouse on the A46 at (746747); at Marshfield at (772737).

NA 16 Castle Farm Marshfield (772744) A roundhouse, originally thatched and attached to a barn, still survives although lacking the horse-gin gearing which operated farm processes such as threshing.

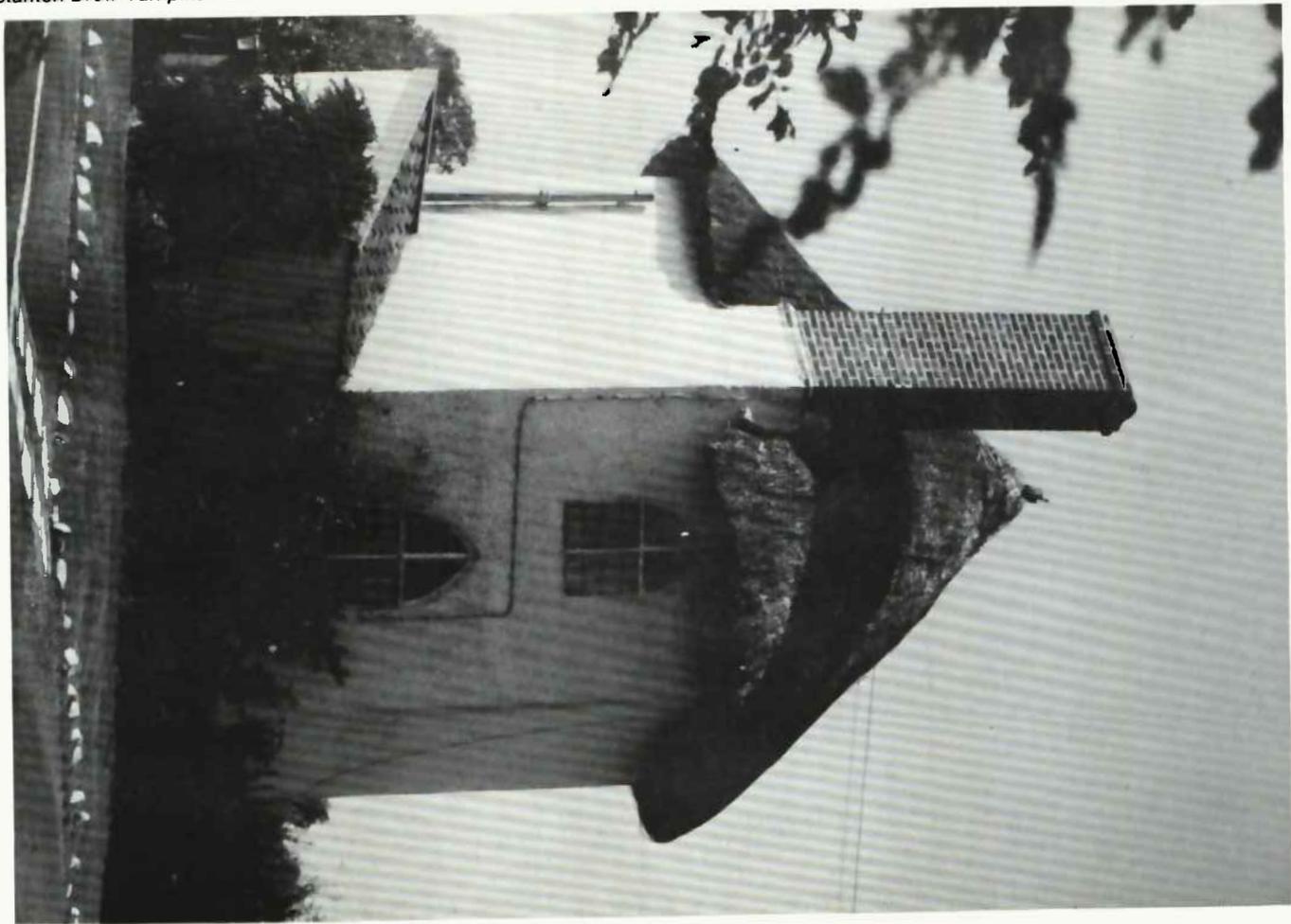
NA 17 Golden Valley Ochre Works, Wick (706731) A large millpond on the River Boyd was providing waterpower for an iron rolling mill during the late eighteenth century. The site was later converted to the grinding of ochre obtained in the vicinity of the works, during which time a water turbine was installed and later a Robey oil engine and steam power was used. The works closed in 1971 after which, most of the equipment and buildings were removed. The ochre was mined in the hillside to the west at (706736) and conveyed to the works by incline plane, which has the winding house surviving at (707732). This was possibly an early medieval site for the extraction of iron ore.

Pucklechurch Turnpike House



- NA 18 Doynton Mill** (719744) Situated on the upper reaches of the River Boyd, this traditional millsite is recorded in 1647 as also having a dyehouse attached to it. It is now used only for storage but several millstones remain as paving in the vicinity of the buildings.
- NA 19 Pucklechurch balloon sheds** (698760) Three balloon hangars from the World War II Balloon Centre survive here in comparatively good condition, believed to be the most intact remains of their type in the country. The site is partly occupied by an industrial estate and a Detention Centre.
- NA 20 Pucklechurch Tollhouse** (688758) Just in Northavon on the junction of B4465 with the road to Siston, this single-storey turnpike house built of lias limestone has been well adapted as a private dwelling.
- NA 21 Shortwood Brickworks** (679769) A large brickworks with its extensive claypit now filled in. Some working and drying sheds have been demolished but two large kiln structures for continuous working remain. The site closed in 1969. Plans to quickly demolish the site did not materialise and at the time of writing much still survives.
- NA 22 Brandy Bottom Pit** Pucklechurch (682772) One of the older workings absorbed by the larger Parkfield, and worked as Parkfield South, closing with it in 1936. An area of derelict remains, much overgrown, survives alongside the railway alignment.
- NA 23 Parkfield Colliery**, Pucklechurch (690777) A tall brick chimney seen from the M4 signifies the site of this mid-nineteenth century colliery which exploited an older area of pit working. An enterprise of Handel Cossham, Bristol's foremost coal-mining entrepreneur, it eventually closed in 1936.
- NA 24 Ram Hill Pit**, Coalpit Heath (677803) After being opened in the late-eighteenth century when it is believed to have incorporated a local system of tramways, this pit later became a terminus for the Bristol and Gloucestershire Railway which started as a horse-drawn route into Bristol. Remains of the alignment and terminus still survive together with fragmentary evidence of mining features. At Serridge nearby, a coalworks site formed an additional terminus. The third ran to New Engine Pit at (678794) where colliery housing still remains. The lines merged near Bitterwell Pond, where a derelict locomotive shed (682795) still has a wrought-iron haystack boiler formerly used as a water tank.
- NA 25 Frog Lane Colliery**, Coalpit Heath (687816) A few buildings, including the horizontal windinghouse, survive from this colliery which closed in 1949. The last of the traditional pits north of Bristol, it had been opened up c1850. A fine series of underground photographs was taken here in 1905.
- NA 26 Nibley Mill** (692824) A small corn mill which continued to use water power for hoisting until the 1950s. Now converted to a dwelling but with its 16ft dia iron water-wheel still in position.
- NA 27 Engine Common**, Yate (699844) A large area of overgrown spoil has a nearby enginehouse adapted to a modern dwelling at (700884). Smaller overgrown mounds of spoil are to be seen in the vicinity. At (701836) a small bungalow has been converted from former colliery buildings.
- NA 28 Cow Mills**, Chipping Sodbury, (722825) Cattle feed is still produced on the site of this former watermill powered by the River Frome. It was still using its overshot wheel into the 1950s which was removed after electrical power had been adopted completely. The old mill now is incorporated into a more industrialised complex.
- NA 29 Chipping Sodbury Quarry** A long trench of deep quarry works extends northwards from Chipping Sodbury at (725826), typical of many other such works in the Northern District.
- NA 30 Celestite Works** (706853) Near Range-worthy but officially in the parish of Yate, the Bristol Mineral Company has its plant for processing celestite which it extracts from the surrounding farmland. Shallow water-filled areas close to the works illustrate their method of working but, elsewhere, these are reclaimed after work is completed on farmland, leaving little trace of the industry.
- NA 31 Yate limekilns** (705858) A row of 12 kilns situated at right angles to the alignment of the Midland Railway with a discernable tramway route to a quarry on Bury Hill (718857). The kilns have recently been robbed of facing stones.
- NA 32 Algar's Manor Mill** Iron Acton (676831) An ancient corn-mill site on the Frome which ceased working in the 1890s still has millstones displayed at the approaches to the buildings, now converted to dwelling accommodation.

Stanton Drew Turnpike House



NA Frampton Cotterell windmill tower (673814)

33 A straight-sided tapered tower built of local pennant sandstone, possibly early nineteenth century. Steam power was later installed leaving a chimney standing to the side of the tower.

NA Hat Factory, Frampton Cotterell (667815)

34 The local craft of hatmaking in many villages of Northavon and Kingswood was established on a more industrialised basis by Messrs Christie and Company from 1818-65 in these two three-storey buildings of local pennant sandstone.

NA Frampton Cotterell iron mines (669819)

35 Extraction of ore for the Chillington Iron Company in the Black Country between 1862-75 came to a halt when the works were inundated. A pumping station built over the shaft at Roden Acre has obscured any surviving features apart from the mineral railway alignment to Iron Acton.

NA Hambrook Malthouse (645799)

36 Now just a private dwelling but suitably named, this house still has a long low building at the rear which housed the former maltings.

NA Frenchay Flock Mill (642773)

37 Waste woollens and other textiles were converted to flock, a low-grade upholstery-filling, after 1880 when the Frenchay Iron Company ceased to occupy the site. They had worked it in conjunction with the next mill upstream, Cleeve Mill on the opposite bank of the River Frome, and so in Kingswood District.

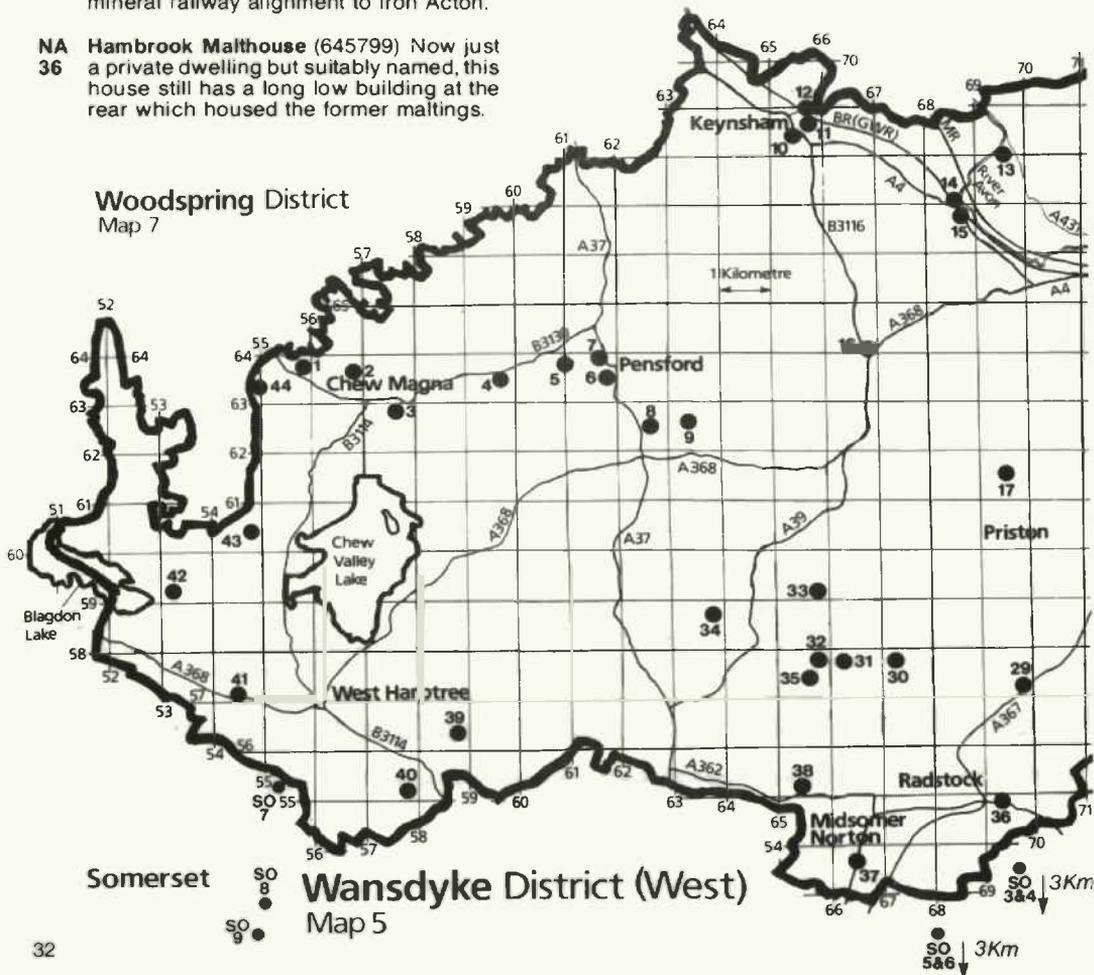
NA Hambrook Brickworks (635805)

38 A large continuous kiln with its tall chimney can be seen from the M4 signifying this former site of brickworking. The surrounding claypit has been reclaimed and has been used as motorcycling training area.

NA Harry Stoke Colliery (619786)

39 A large spoil heap remains from the efforts of the National Coal Board to open new works here in 1952. The two drifts produced disappointing results and work came to a halt in 1964.

Woodspring District
Map 7



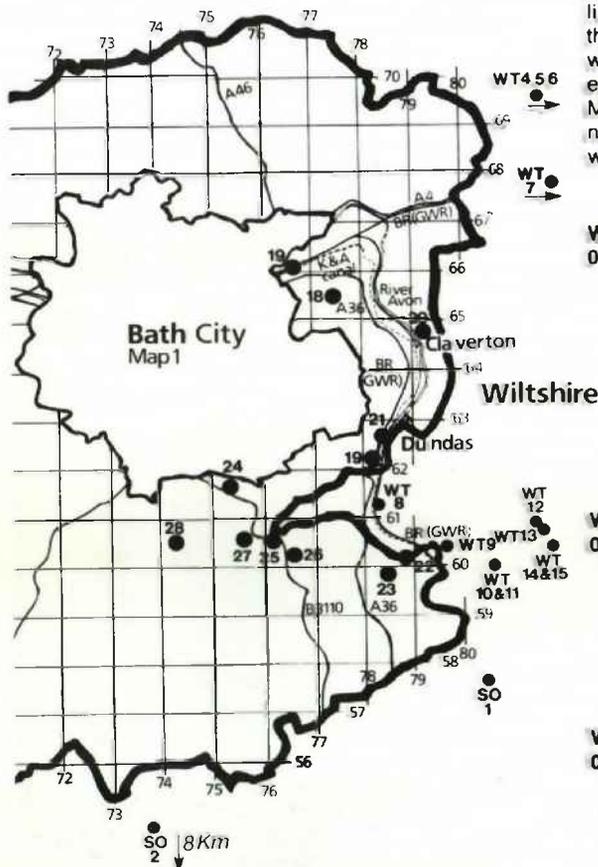
Wansdyke District

The earthwork giving its name to the district is traceable in the area to the south of Bath and Bristol which remains largely rural. Stretches of the Avon and its tributaries have powered a number of watermills, ancient in origin which, in more recent centuries, have been converted to a variety of industrial uses. Some of these remained long enough in business to become the last of their kind and their sites still display features which are considered unique throughout the country.

The southern areas centred on Radstock contained the latter stages of the county's coalmining which finally came to a halt at Kilmersdon and Writhlington Collieries

in 1973. Much evidence of this centuries-old industry has since been cleared but minor features still remain. Further to the West, the north flank of Mendip has been a source of drinking water for Bristol since the mid-nineteenth century, creating considerable changes in the appearance of the countryside with building of its reservoirs. Early systems of its distribution are of industrial archaeological interest.

To the west of Bath, the Avon Navigation, with the Kennet & Avon Canal east of the city, both provide good evidence of the strong representation of waterways to be found within the district. The twin routes of the Somersetshire Coal Canal are less obvious but of equal interest. So too with the railway history of Wansdyke. In addition to the major routes still in service, there is much to be discovered in the line of the Somerset & Dorset Joint Railway and that of the Bristol & North Somerset alignment with its small branch line to Camerton which eventually reached the Limply Stoke valley. Many of these features are hidden away and need to be sought out in the rural surroundings which are characteristic of Wansdyke.



Wansdyke District (East)
Map 6

WK Littleton Mill, near Chew Magna (557638)

01 An early snuff mill on the Winford Brook was converted in the 1870s to processing ochre mined on the high ground above Winford. (see under *Woodspring*) Iron-bound granite edge runners used for crushing and long low drying kilns remain from the work which ceased in the mid-1970s. Just downstream, Lower Littleton Mill now a garage, was also involved in the same business until the 1950s.

WK Chew Magna compensation reservoir

02 (566633) The Winford Brook was dammed c1850, inundating a former iron-mill site, to keep mill wheels turning downstream. Mill owners had protested that the extraction of water by Bristol Waterworks at Chew Head would put them out of business. (see also *Litton Reservoir* below).

WK Tunbridge Mill, Chew Magna (577629)

03 This traditional mill building on a Domesday site still operates as a grist-mill with equipment that is electrified but its large undershot waterwheel is retained in the leat. An additional **Chew Magna grist-mill** site on the Winford Brook at (577633) is now converted to a domestic dwelling.

WK 04 Stanton Drew Turnpike House (596636) This tiny hexagonal two-storey tollhouse with a thatched conical roof still has its slotted counter for tolls inside the door. It was administered by the West Harptree Trust.

WK 05 Bye Mills, Pensford (610638) Ruinous remains of working buildings with their watercourses near the mill house indicate the early site described as an iron mill in the 1660s. Newly leased by John Coster in 1713, it was converted to working copper until its sale in 1860. The making of paper followed for a few years, in conjunction with the next mill upstream, **Stanton Drew Mill** (595635) now a dwelling but on a former early fulling-mill site.

WK 06 Pensford Colliery (618625) Unusual for this area being entirely twentieth century, this mine opened in 1909 to become the second largest colliery in Somerset prior to its closure in 1955. The spoilheap, pit-head baths, building and winding house remain on the site. Pensford worked in conjunction with the older **Bromley Colliery** (607618) where an overgrown spoilheap and buildings survive, now converted to dwelling and business accommodation.

WK 07 Pensford Viaduct (617638) The Bristol & North Somerset Railway crossed the valley of the River Chew at Pensford by a fine pennant-sandstone viaduct, the most prominent feature of this small village. Immediately below it, the site of Pensford corn mill still has fragmentary remains in an attractive setting.

WK 08 Publow Mill (625642) An iron mill making frying pans in the early 1700s was adapted to working copper by the Coster family in the 1730s. After its closure in 1860 it was incorporated into the buildings of Church Farm where mill-race remains are still evident.

WK 09 The Old Tannery, Woollard (633645) A tannery site from at least 1630 to the 1870s latterly used a waterwheel powered from the nearby Candlestick Brook. Building remains dated 1830, a wheelpit, the base of an animal-powered grinding mill, and serrated-edge runner stones typical of tan-grinding all survive at this interesting site in the grounds of a private dwelling.

WK 10 Albert Mill, Keynsham (657678) South Mill, an ancient site, was used as a woollen mill in the 1770s, then later adapted to spinning cotton and flax. Rebuilt as a corn mill by 1836, it was then adapted for crushing

Pensford Viaduct in its working days



lime and ochre. A disastrous fire in 1873 brought further changes to dyewood processing, the chipping and grinding of imported woods which were infused to make dye materials, and the new name of Albert Mill was acquired. By 1964 when the last commercial load was processed it was the only remaining works of its kind, its water-powered chipper and edgerunners then being unique and its external waterwheel being the only known example of its type. It is planned to retain this equipment in conversion of the building to private dwellings.

- WK 11 Chew Mill**, Keynsham (657685) Believed to be a Domesday mill later used for fulling, the site now consists of water courses and a 15ft dia waterwheel surrounded by the tidied-up lower walls of the building in Keynsham's Memorial Park. It was leased for use as a brass battery mill in 1705 and continued to operate its water-powered hammers until the 1870s. Later it was used for ochre grinding until World War II.

- WK 12 Avon Mill**, Keynsham (657689) Little now remains of this main site of brass working on the Avon apart from ancillary buildings and the manager's house recently restored as business premises. Eight waterwheels powered brass rolling and wiredrawing equipment up to 1927 on this site which was converted from an ancient corn and fulling mill site in the early eighteenth century.

- WK 13 Kelston Mills** (694680) William Champion from the Warmley Company built a brass battery mill on this site in the 1760s shortly before his bankruptcy. The outer walls of his two annealing-furnace chimneys are now the most apparent remains of the works since its redevelopment as a marina. Outside the works gates, a fine row of 1760s **workers' cottages** survive, (694679) typical of those built by Champion at both Warmley and Bitton but now, sadly, demolished.

The Albert Mill, exterior waterwheel



WK 14 The Old Brass Mill, Saltford (687670) The most complete remains of the brass industry of the Avon Valley survive at this Saltford site, a former fulling mill leased for brass manufacture in 1721. Its most notable feature comprises an almost complete coal-fired annealing furnace, of the type developed locally, which has been well-restored in recent years. A waterwheel which once powered a rolling mill also remains and a base of an anvil from a battery hammer was excavated in 1986. The rolling of brass sheet ceased here in 1925, but the hammering of hollow-ware vessels had halted previously in 1908.

WK 15 Saltford Turnpike House (688665) The colonnaded frontage of this two-storey building disguises the balcony originally supported by columns at this Bristol Trust tollhouse. It replaced an earlier house at the bottom of Saltford Hill.

WK 16 Marksbury Turnpike House (669640) A single-storey tollhouse of the Bath Trust is well cared for in its adaption as a filling station. Another tollhouse in Marksbury village was demolished in the late 1960s.

WK 17 Priston Mill (695615) A Domesday site which still has most of its water-powered equipment in working condition, nowadays for the production of wholemeal flour rather than the animal feed formerly ground. A small high-level millpond fed by the Conygre Brook supplies the 21ft dia iron pitchback waterwheel with conventional drive, formerly to two pairs of stones, although one drive has now been electrified. In the early eighteenth century the mill also powered a fulling stock in addition to its grinding equipment.

WK 18 Bathampton Down Quarry and Incline (777653) Ralph Allen quarried stone on Bathampton Down from c1730. The site was re-opened in the early 1800s to provide good quality stone for construction of the Kennet & Avon Canal. An incline with many surviving stone sleeper blocks from the quarry to the wharf (783659) at the canal can still be quite easily traced.

WK 19 Kennet & Avon Canal This level stretch of canal east of Bath in Wansdyke territory (764659 to 784621) is through country of great beauty. There is a history of minor subsidence causing loss of water from the

hillside route and several stopgates are placed as a precaution.

WK 20 Claverton Pumphouse (792644) A pump driven by a large waterwheel 17 $\frac{1}{2}$ ft dia by 25ft wide through a pair of cast-iron beams was installed by John Rennie to supply water from the Avon to the nine-mile pound of the canal. It began working in 1813, was modified by Harveys of Hayle in 1843 and subsequently, until in 1858, a pedestal bearing was placed at the centre of the wheel dividing it into two sections. After being damaged the wheel was abandoned in 1952 when, in 1979, a volunteer group began restoration work, completed some eight years later. The pumphouse is now open to the public every Sunday during the Summer and is working on selected weekends.

WK 21 Dundas Wharf and Aqueduct The wharf at (785626) has a small stone warehouse and a hand-operated crane by Acraman of Bristol. This was the junction where the Kennet & Avon Canal was joined by the Somersetshire Coal Canal before its demise in the 1890s. The entrance lock and short length of canal beyond has recently been re-excavated and opened during 1986 as a marina for pleasure boats. The aqueduct (786626) of Bath stone taking the K & A across the Avon into Wiltshire is regarded as one of the finest features designed by Rennie. The 64ft arch was completed in 1800. Extensive repairs have been carried out recently to prevent water seepage.

WK 22 Freshford Brewery (788602) A small complex of buildings, complete with chimney, from a former brewery in the heart of the village have been well adapted to modern business premises.

WK 23 Dunkirk Mill, Freshford (785595) A late-eighteenth-century woollen-cloth mill, once waterpowered from a pond higher up in the hillside, has long been approaching dereliction, and more recently the subject of a conversion project.

WK 24 Tuckingmill Viaduct, Monkton Combe (764616) The Somerset & Dorset Railway crossed Horsecombe Vale in its descent from Combe Down tunnel towards Midford. Below the viaduct the site of Tuckingmill, which formerly processed fullers earth, has now been occupied by waterworks.

WK 25 **Midford Viaduct** (761605) The Somerset & Dorset Railway here crossed the B3110, (with its turnpike milestone just below) the Midford Brook and the Somersetshire Coal Canal, on its scenic route through to Radstock which can still be followed on foot. A second viaduct at lower level, now partly demolished, brought the branch line from Limpley Stoke en route to Hallatrow, now only accessible in short sections.

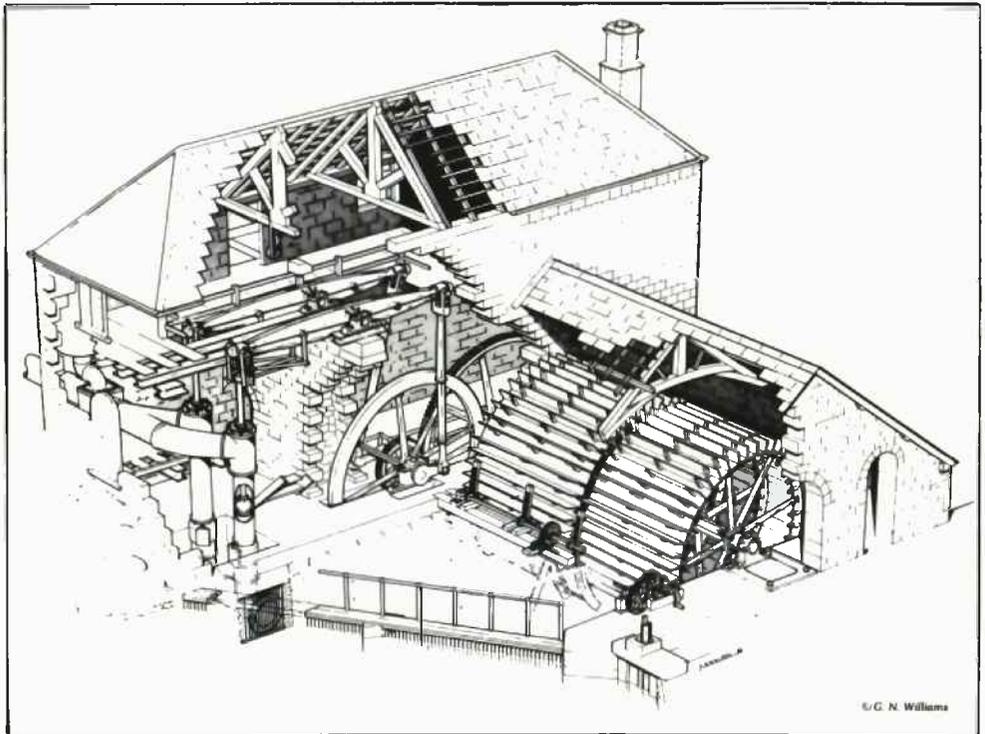
WK 26 **Midford Malthouse** (764602) A kiln at the roadside betrays the function of the much larger building to the rear as a small country maltings complex.

WK 27 **Midford Aqueduct** (757605) A low aqueduct over Midford Brook survives from an abandoned branch of the Somersetshire Coal Canal which originally was planned to Radstock, but replaced subsequently by a horse-drawn tramway. It joined the Paulton branch of the canal near the aqueduct by means of an incline which still can be seen.

WK 28 **Combe Hay Locks** (744605) A flight of twenty-two locks linking two levels of the coal canal 130ft apart eventually solved the problem caused by the failure of the caisson locks which had been planned at this site. Most of the locks although derelict, still remain to illustrate the tortuous route taken. The caissons are believed to have been situated below the present Caisson House. The route of an incline, an intermediate measure, is also still visible.

WK 29 **Red Post Turnpike House**, Peasdown St John (698572) A former Bath Trust toll-house has similar features to those at Marksbury, but is a considerably enlarged two-storey dwelling.

*Claverton Pumphouse
drawing by G N Williams
by courtesy of the K & A Canal Trust*



- WK Radford Brewery and Maltings** (672578)
30 Remains of a complex of brewery buildings lie below the alignments of the **coal canal** and the **Hallatrow branch line** where, formerly, **Radford Halt** was situated. The **maltings** at (672577), now converted to dwelling accommodation, lie beside the hillside road to Radstock.
- WK Withy Mills Colliery Spoil Heap** (662578)
31 A large nineteenth century elongated 'batch', (the local word for spoilheap) is now overgrown but with fine views over coal canal. Pennant stone blocks remain from a former **tramway** to the canal.
- WK Paulton Basin** (658576) The terminus of the Somersetshire Coal Canal included a large square basin to facilitate the loading of coal brought to the wharves by horse-drawn tramways. These routes came from nearby collieries in the direction of Paulton village, Timsbury and High Littleton, some which can still be traced. The **canal** configuration is very apparent from its terminus to Radford at (673578). The embankment of the **branch line** which ran from Hallatrow to Limpley Stoke lies alongside it over this length.
- WK Hayeswood Colliery**, Timsbury (658591)
33 Opened c1750, the working was inundated in 1845 when seven men and four boys were drowned from the 100 trapped underground. Work was finally abandoned in 1860 but some colliery buildings have been converted to other uses including the beam pump-house now used as a private dwelling. There are several other small coalworking sites on the hillside below, with a number of associated workers' cottages, particularly at the **Tynning** (660587).
- WK Greyfield Colliery**, High Littleton (638587)
34 A nineteenth-century coalworks which closed after flooding in 1909. Pit buildings are incorporated into dwelling accommodation.
- WK Paulton Foundry**, This major foundry of the Somerset coalfield was established by 1810 and run by William Evans at this site from 1839 making winding engines amongst more general work, but moving to Writhlington after 1889. The site of **Paulton Engine Colliery** just outside the works perimeter (657574) is believed to be where the first Newcomen engine of the area was erected in 1738.
- WK Radstock Collieries** Since the closure in 1973 of the last working collieries in Somerset, Radstock has made strenuous efforts to rid itself of the coalmining image. At **Lower Writhlington**, (706554), the last mine to close only a roadside store and spoilheap remain. **Kilmerdon Colliery**, (687538), which closed one month before, has been cleared and redeveloped as an industrial estate, with only workers' housing and a steep railway incline surviving on site. Its pitwheel is mounted in central Radstock. **Ludlows** (693548), which closed in 1954, has a pit-head baths building and an enginehouse which have been adapted to other uses. **Clan-down** (683558), and **Tynning** (696554) both have little more than spoilheaps to identify their former history. In central Radstock at **Middle Pit** (687553), the site of the 1782 Hornblower pumping engine, which eventually closed in 1933, more buildings remain but its large brick chimney was demolished early in 1987. Its **powder house** survives at (685552). Lines of early **horse-drawn tramways**, later developed to **steam locomotion**, leading from many of the collieries to the former canal and railway systems can still be identified.
- WK Midsomer Norton Station** (664536)
37 Buildings from this former Somerset & Dorset Railway Station are still in quite good condition, having been utilised in various youth and school projects since the railway closed in 1966.
- WK Old Mills Colliery**, Paulton (654551)
38 The removal of the conical spoilheap, the most obvious feature of Somerset coalmining, received planning permission in 1986, but still remains. The locally-built 1861 steam winding engine from this colliery was dismantled to store in Bristol City Museum after the colliery closed in 1966.
- WK Litton Compensation Reservoirs** A high dam (588554) separates these two reservoirs on the higher reaches of the Chew, built c1850 to serve watermills downstream, 'compensating' for drinking water supplies extracted at the source of the river. The earth dam has been recently strengthened, and the reservoir is now used as a fish hatchery.
- WK Eastwood Manor Farm**, East Harptree
40 (578551) Built as a model farm in 1858

this handsome Victorian stone complex incorporated a 27ft dia waterwheel and steam power to operate flax processing, threshing, pulping and root-cutting machinery. Indoor bullock yards with decorative drinking fountains, and numerous ancillary facilities are roofed with glass and early galvanised corrugated iron, part of the original design.

WK 41 Compton Martin millpond (545570) An attractive duck pond by the side of A368 and a building below the dam remain from a former paper mill of the early nineteenth century.

WK 42 Ubley mill site (531591) An ancient corn-mill site acquired by Bristol Waterworks during construction of the nearby Yeo Reservoir (known as Blagdon Lake, see *under Woodspring*) was used as a fish hatchery. It is now a private residence.

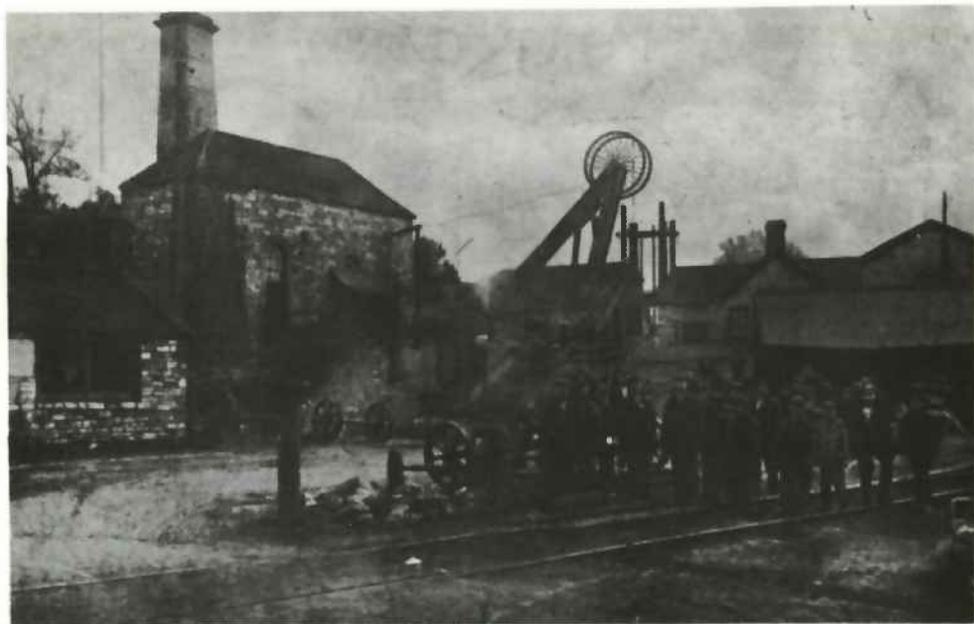
WK 43 Breach Hill obelisk (549604) Apparently just a decorative feature, this tall column houses an air vent from the 'Line of Works', the original gravity-fed system taking water from the source of the Chew to Barrow settling tanks.

WK 44 Blackmoor enginehouse and chimney (548632) Situated on 'The Line of Works' this enginehouse remains from efforts to discover additional sources of water from the rocks below, c1860 a project which met with little success. The Line of Works crosses a deep ravine by a spectacular aqueduct nearby at (547639) en route to Winford.

Woodspring District

Avon to the southwest in Woodspring draws its character mainly from its coastline in which Weston-super-Mare and, to a lesser extent, Clevedon have influenced patterns of transport but where entertainment and leisure can be regarded as the main industry. Just inland from the coast, an extensive housing development at Nailsea engulfs a former late-eighteenth century area of coal working. Its fuel

*Ludlows Pit, Radstock
from a picture postcard c1904*



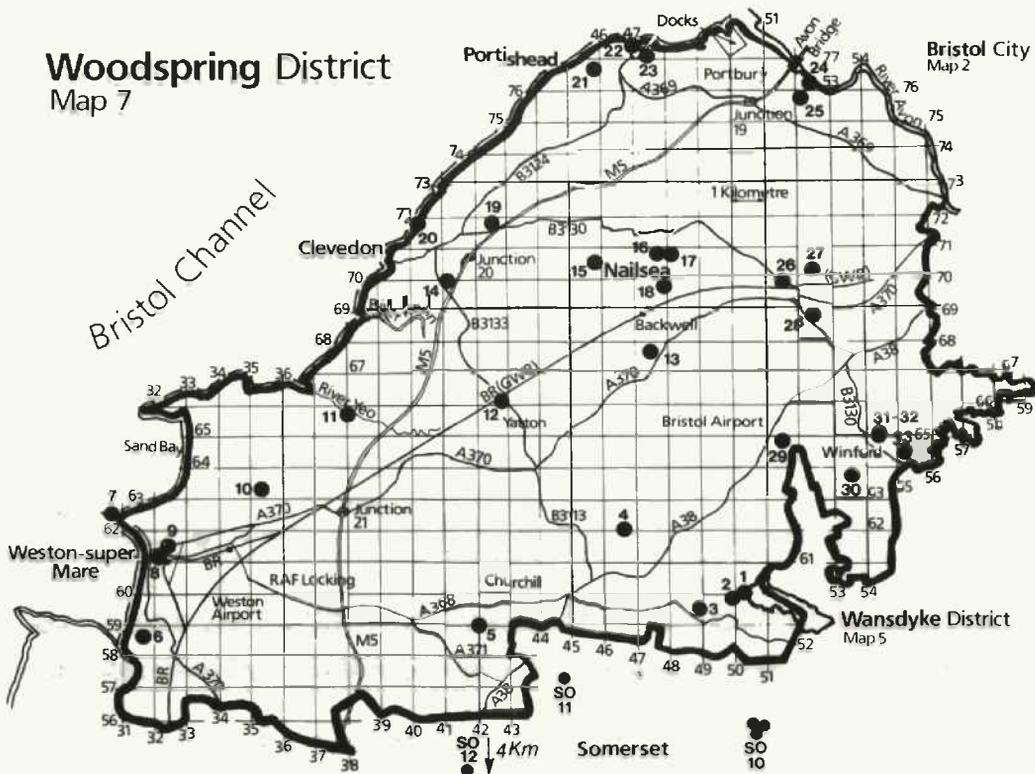
resources later gave rise to a glass manufacturing industry of some distinction particularly to the collector of its skilfully decorated products. Further north on the coast Portishead also has a more workaday history with its late-nineteenth century dock development later encompassed by the Port of Bristol and, nearby, the recent construction of the large container dock of Royal Portbury. The tidal Avon is part of the northern boundary, extending inland to the carboniferous limestone of the Clifton Gorge which has been quarried over centuries.

Inland to the south and east the district is rural and often quite hilly with small streams flowing seaward which have powered a number of windmills. They were mostly concerned with the grinding of grain, but snuff grinding, iron working, ochre processing and papermaking are all recorded. In the flatter areas nearer the

sea a number of windmills have the remains of their stone towers still surviving. The streams have also been harnessed in successive schemes to supply drinking water. Pumping stations at Blagdon and Chelvy still have some early steam pumping equipment on site which has long been replaced by more modern methods.

The northern flanks of the Mendip ridge form the southern boundaries of the district, extending inland from the sea. The main areas of mining lie to the south of this border in Somerset but Woodspring contains sites which were former sources of lead, calamine and ochre as well as extensive quarries of building stone, roadstone and lime, both on Mendip and its northern outliers. Most of their remains have, by now, merged into the countryside contributing to the rural scene typical of inland Woodspring.

Woodspring District Map 7



- WS Blagdon Pumping Station (503600)** A reservoir on the River Yeo, now known as Blagdon Lake, was planned at the close of the nineteenth century. The fine brick-built pumping station below the dam at the western end of the lake housed two pairs of Woolf compound beam engines, installed 1902-5 by Glenfield & Kennedy. Ceasing work in 1949 when replaced by electricity, the boiler was demolished and chimney truncated but one pair of engines was retained in the south wing. In 1984 one of these was electrified to provide a demonstration of its working principles.
- WS Blagdon Station (504596)** The Wrington Vale Light Railway, a branch from Congresbury of about 7 miles to Blagdon opened in 1901 with the main purpose of aiding the building and servicing with coal of the Blagdon Pumping Station. Passengers were carried until 1931 and remains of the small Blagdon station survive in a private residence. The line closed completely in 1950.
- WS Rickford millpond, Blagdon (488593)** A large pond on a stream running into the Yeo, now retained as an ornamental feature, survives from a mill making paper

from at least 1800 to 1860. Another eighteenth century **papermill at Banwell (394592)** on the Banwell River has been eradicated by later development.

- WS Wrington Mill, (467620)** A former corn mill on the River Yeo has been converted to a dwelling. Just downstream on the Yeo at **Beam Bridge an early mill site (468620)** had been adapted as a flock mill by the late nineteenth century.
- WS Sandford Limekilns (420590)** A bank of three large limekilns associated with Sandford quarries can be seen from the roadside. Last used in 1939 they now store builder's materials. Numbers of smaller kilns in various stages of delapidation exist throughout the area.
- WS Uphill windmill tower (317583)** The short tower of a windmill, described as 'old' in 1829 now serves as an observation platform overlooking the channel and the bay at Weston-super-Mare.

Blagdon Station, c1904



- WS 07 Birnbeck Pier, Weston-super-Mare** (308624) Designed by Birch and opened in 1867, this structure extended to Birnbeck Island and 250ft beyond, providing a landing stage for passenger steamers. After gale damage in 1903 the original section beyond the island was removed.
- WS 08 Weston-super-Mare Railway stations** Brunel neglected to provide a direct service to Weston when he opened the Bristol to Exeter line in 1841. Instead, a horse-drawn railway of 1½ miles connected Weston Junction with the **station in Alexandra Parade** (321613). Winterstoke Road was later superimposed on part of the route. From 1852 when steam was adopted the **station was built near Locking Road** (321612), later to become the goods station when the Weston Loop Line gave direct service to the town in 1884 and the **present station** was constructed (324610).
- WS 09 Weston-super-Mare Gas Works** (323616) The buildings complete with imposing stone frontage of the Weston-super-Mare Gaslight Company which once housed stores and offices are now inhabited with the lively activity of Woodspring Museum.
- WS 10 Worle Hill windmill tower** (352632) First recorded in 1760 this mill came up for sale as a going concern in 1870 but apparently without success. It was adapted as an observatory soon afterwards and remains in good condition.
- WS 11 Weston, Clevedon & Portishead Light Railway** Plans to link these coastal towns eventually came to fruition in 1897 when Weston was connected from a station in Milton Road across rather remote coastal areas to Clevedon and, by 1907, to Portishead. Stretches of the line are still apparent near the River Yeo, where cylindrical supports of the bridge (380658) over the river still survive together with remains of the nearby riverside wharf for carrying Welsh coal to the railway. Closure was in 1940.
- WS 12 Yatton Junction** (424661) On the main line of the Bristol and Exeter Railway, Yatton became the Junction for the branch line to Clevedon opened in 1847, and for an additional line to Cheddar, via Congresbury, Sandford, Winscombe and Axbridge in 1869. The Clevedon line closed in 1966, that to Cheddar in 1968.
- WS 13 Chelvey Pumping Station** (474679) Work started at Chelvey in the late 1860s to augment Bristol's water supply by pumping from boreholes in the vicinity. Several sets of steam engines have been installed here but only the 1923 Lilleshall inverted-vertical triple-expansion engine is retained in its original house. Present-day pumping is by electricity.
- WS 14 Kenn windmill tower** (411696) Dated 1821 and known to have been supplemented by a gas engine by 1883, the remains of this windmill are slowly disintegrating. What is left of the stone tower can easily be seen from the M5.
- WS 15 Colliery enginehouse, North Lane, Nailsea** (459705) A former enginehouse off North Lane is still quite recognisable although converted in the 1890s to a private dwelling.
- WS 16 Nailsea Glassworks** (477708) Little that is recognisable remains from a large complex of working buildings and glass cones of this glass works, in operation from 1788-1873. Workers' housing, administrative buildings and a manager's house survive above ground. Remains which have been excavated of foundations of the latest of the cones with ancillary buildings, are threatened by road developments.
- WS 17 Colliery enginehouse, Nailsea** (479708) In an area of extensive coalmining during the eighteenth and nineteenth centuries this ruined enginehouse remains located on what is now Park Road Playing Fields. Old Glass house Pit is known to have been operating in the 1830s.
- WS 18 New Colliery or Fatlers Pit enginehouse** (477698) An enginehouse of a former colliery which closed in 1861 was enclosed in a private garden and surrounded by a rockery. Redevelopment of site gave opportunity for excavation which in 1984 revealed other colliery features including the rectangular mine shaft, a second enginehouse and circular base of a horse gin.
- WS 19 Tickenham Pumping Station** (429717) Buildings of an ornate Victorian **station** built for pumping water from boreholes in

the 1890s survive and can be seen from the M5.

WS 20 Clevedon Pier (401719) This elegant pier opened in 1869 was designed by Ward and Grover to incorporate an unusual use of Barlow rail in the upper parts of the supporting members. After being damaged in 1970 during excessive test loading, strenuous efforts have been made to restore the structure despite high costs and difficulties of the project. At the time of writing only the first and final sections still remain in situ, the whole central portion having been removed for repair.

WS 21 Portishead windmill tower (458767) Built in 1832 to replace the tidemill which had been causing drainage problems at the centre of Portishead, this windmill was apparently out of commission some 16 years later. The tower is now incorporated into a golf clubhouse.



WS 22 Portishead Power Station (474774) The four large chimneys of this power station dominated the Portishead skyline from the early 1950s when B Block was added to the original station commissioned in 1929. Only two chimneys now remain at this building, long since relegated to standby service in deference to atomic power.

WS 23 Portishead Dock and Pier (474770) With the opening of the Bristol & Portishead Pier and Railway broad-gauge branch

line to Portishead in 1867 the way was clear for construction of the large rectangular dock which followed in 1879, later to become incorporated into the Port of Bristol. The surroundings were later occupied by a timber yard, a large grain mill and chemical works, served by extensive railway sidings. The dock, now used mainly for pleasure vessels is overlooked by a silent power station. The pier is still used occasionally by pleasure steamers.

WS 24 Pill Creek (526761) The historic base for Bristol's pilots serving vessels approaching the channel and navigating the difficult tidal waters of the Avon. Vessels could tie up at **Hung Road**, (535739), a low cliff face rising from deep water just upriver from Pill's mudbanks, to await high water enabling them to proceed up the Avon to Bristol.

*left: Felton windmill tower
below: Worle windmill tower*



WS 25 Lodway Brewery, Easton-in-Gordano (523759) Stone-built bays remain in Lodway Road of this former brewery business.

WS 26 Kingcott Mill, Flax Bourton (515698) The mill building has been adapted to dwelling accommodation incorporating a games room which still contains a 12ft dia overshot iron waterwheel with timber arms, with remnants of other equipment. Used for corn grinding and also to operate equipment for an iron foundry.

WS Gatcombe Mill, Flax Bourton (522701)

27 Although the building is in poor condition this former grist mill encloses an iron overshoot waterwheel, c14ft dia, with its gearing and shafts which would be workable with the repair of some of the timber fittings which are damaged or missing. The water-course from the Land Yeo River is now dry but both steam and an oil engine have been used to supplement waterpower during the later years of the mill. The site once was part of the Smythe Estate, and appears to have been used to grind snuff during the 18th century.

WS Lower Barrow Mill, Barrow Gurney

28 (523686) Upstream from Gatcombe on the Land Yeo, this grist mill was restored in 1909 when the present completely enclosed iron overshoot waterwheel c14ft dia is believed to have been installed but no gearing or machinery remains. Cattle feed is still produced in additional buildings on the site but the stone-built mill building and its millpond remain.

WS Felton windmill tower (515649)

29 A short rubble-stone tower converted to a dwelling with a pyramidal roof was used as a windmill until the 1880s.

WS Winford ochre workings (535638)

30 An extensive opencast working for ochre was opened up during the 1920s from earlier underground mining. Much of the open area has now been filled in with domestic rubbish but a large cavity still remains to-

gether with a high conical spoil heap. Other small mines were situated between this site and Winford village. The ochre was taken for processing to Littleton Mill (see under Wansdyke).

WS Winford Pipeline Aqueduct (544649)

31 A gravity-fed culvert and pipeline system was constructed to bring drinking water from the source of the River Chew to storage tanks at Barrow. Installed in the late 1840s as 'The Line of Works' for the newly-formed Bristol Waterworks Company, it is still in operation, and most easily viewed where it crosses the valley at Winford.

WS Kentshire millsite, Winford (545649)

32 Now a private residence, with indications of the former millpond on the upper reaches of the Winford Brook, this site was being used for the processing of ochre in the early part of the nineteenth century. Its present name indicates the later processing of snuff.

WS Littleton Gunpowder Mill, Winford

33 (551644) A long millpond, now partially emptied, and its water courses on the Winford Brook provided power to make gunpowder from the mid-eighteenth to early nineteenth century. The mill house and a barn enclosing the magazine survive, together with a ruined clock tower and derelict buildings along the length of the millpond. A large wooden rung gear has been retrieved from the millpond.

The Line of Works, Winford Aqueduct



The Borders

The boundaries of the County of Avon are placed mainly in rural areas, away from concentrations of industry, but there are several sites of interest just beyond these artificial lines of demarcation which are worth noting when considering the county as an entity. To the East in particular, the River Avon and multiple transport routes eastwards have resulted in a more obvious continuity with Avon's industrial enterprise. Road, rivers, canal and railways have important features just outside the county boundaries. The West Country manufacture of woollen cloth had been scattered along the river valleys exploiting available water power but became more concentrated in Trowbridge, Bradford-on-Avon and Frome as the twentieth century approached, still leaving many of the older mill sites in the border areas. There are connections too, with the extraction of Bath stone arising from the discovery of major resources revealed by the construction of Brunel's Box Tunnel.

As the border approaches Mendip country to the south it bisects the coalfield formerly described as North Somerset prior to 1974 when Avon was created. Some coal-mining remains of importance lie just south of the border in Somerset and as the line continues along the north flank of high Mendip it places the major lead and calamine mining and working sites just outside the county. The exploitation and use of these mineral ores was so strongly linked with Bristol, however, that there is good reason for including these sites within a guide to Avon.

To the north of the county the past industry which has occurred along the boundary is more closely connected with economic development to the north in Gloucestershire. The mills of the Little Avon, along which a stretch of the border wanders, were dominated by the woollen cloth industry which was centred on Stroud and where it still just manages to survive. The features along this border are of great interest to the industrial archaeologist but they are not really integrated with Avon's industrial past. What connections there are exist mainly in the lines of communication, the railway and more particularly the roads spreading northwards from Bristol and Bath through the rural outposts of the county.

Gloucestershire Borders

- GL 01** **Sea Mills, Berkeley (676991)** A nineteenth-century stone-built mill formerly situated on the lower reaches of the Little Avon before its course was resited was approachable from the Severn estuary via Berkeley Pill. It still has remains of its millside wharf. None of the original machinery remains but the building still has relics of its previous function. It is now used to produce stone-ground flour by electrically-operated equipment.
- GL 02** **Stone Mill, Woodford (688956)** A millsite on the Little Avon dating from the 1500s which has been used as a blade mill, a paper mill and grist mill, the function of the present building dating from 1796. It contains a larger breast wheel of c17ft dia which once had conventional drive to two pairs of stones. A smaller breast wheel 10ft 6ins dia drove three pairs of stones.
- GL 03** **Bushford Bridge Tollhouse, Kingswood (742930)** An unusual circular turnpike house stands at the junction of B4058 and a minor road to North Nibley.
- GL 04** **New Mills, Kingswood (737930)** A fine brick-built five-storey cloth mill constructed early in the nineteenth century on an earlier site. Some of the ancillary buildings are believed to date from the previous era, including the stove house and former dye-houses. A large pond from the Little Avon provides an attractive setting for the mill which has recently been restored and adapted to modern purposes.
- GL 05** **Langford Mill, Kingswood (745924)** A late eighteenth-century fulling mill site developed as a cloth mill during the following century has a five-storey stone building dated 1822, which in recent years has been restored, having had its cast-iron breast-shot waterwheel broken up c1975.
- GL 06** **Abbey Mills, Kingswood (746922)** Another early site on the Little Avon with its history closely involved in the manufacture of cloth. In 1898 the main buildings were destroyed by a disastrous fire and subsequent rebuilding was strictly utilitarian, but a row of mill cottages and a warehouse survive. The most striking feature remaining is the decorated cast-iron water tank seen from the B4060.

Wiltshire Borders

WT 01 Luckington Bottle Kiln (823820) A surprising survival amid the farming countryside near Avon, Gloucestershire and Wiltshire borders, this c40ft red-brick kiln for manufacturing bricks appears to remain in good condition.

WT 02 Slaughterford Papermill sites Several papermills have worked on the By Brook in the past, the earliest at Long Dean being recorded by Aubrey in 1635. On the upper reaches of the river, the last mill closed at Chapps Mill, Slaughterford (843737) in December 1981 where ranges of stone and timber building still remain on site. It had previously worked in conjunction with **Rag Mill** (838737) just upstream where buildings are demolished but a large high-breast waterwheel 15ft dia by 9ft wide is slowly disintegrating.

WT 03 Drewett's Mill, Box (833698) A small grist mill situated in the deep valley of By Brook below Box Hill which was formerly powered by a 10ft overshot waterwheel. Later, it was replaced by a turbine which is still used to operate a small rotary mill for producing cattle feed.

WT 04 Box Hill Quarries (835695) Buildings of former quarry working survive alongside the A4 on Box Hill. In the hillside behind are several mine entrances, now made secure, from which high-quality Bath stone was formerly extracted. The genuinely named Quarryman's Arms is found at a higher level, still displaying a selection of quarryman's tools. A quarry opened up from former underground working is situated on the plateau.

WT 05 Box Tunnel, western portal (830689) This grand tunnel entrance, which can be viewed from the A4 bridge over the railway, epitomises Brunel's approach to architecture on his western section of the Great Western Railway was completed in 1841. Similar architectural features can be seen in the portals of the **Little Box Tunnel** at (820687).

WT 06 Box Mill (825688) A large four-storey stone building on the By Brook is overlooked by the Great Western Railway. Converted to

use as a warehouse, its more recent adaptation as a recording studio still retains some of its mill character.

WT 07 Kingsdown Tollhouse (832673) A two-storey hexagonal-fronted house of ashlar Bath stone little altered, stands on the old tumpike road to Bath, later superseded by the A365 nearby. At the junction of these two roads at (839671) stands a **terminus milestone of the Bath Trust** complete with its usual pointing hand.

WT 08 Limpley Stoke Mill (782611) An early nineteenth-century stone block of four-storeys built typically in local style for the manufacture of woollen cloth, originally using water power. It was adapted to rubber manufacture in 1875 and later used by a timber business.

WT 09 Murhill Incline and stone wharf (795605) This incline formerly brought Bath stone from the quarry on the hillside down the steep slope to the canal wharf. The stone blocks are now obscured by a layer of

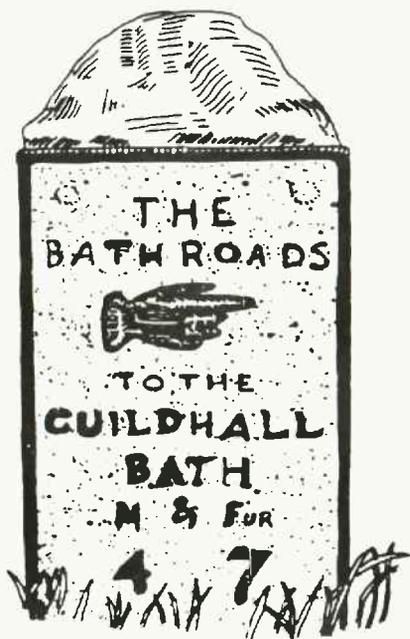
Rag Mill waterwheel, Slaughterford



asphalt as the track has been utilised as a road, but some cast-iron rails have been revealed near the wharf. A similar **Incline from Conkwell quarries** to the canal at (786625) near Dundas Aqueduct has been more completely obscured by undergrowth.

WT Avoncliff Aqueduct (805600) The Kennet & Avon Canal recrosses the Avon by an aqueduct less distinguished in design than that at Dundas, and is further marred by settlement in its structure. Extensive repairs in recent years have brought it into use once again, having been dry for a considerable period. The canal bed itself between Avoncliff and Dundas has also been subject to a long programme of restoration to prevent previous leakages.

WT Avoncliff Mills and Weir (805600) This ancient weir on the Avon served mills on either bank associated with the former woollen industry. Old Mill, a former fulling mill later used for flock, still has a large breast-shot waterwheel visible on the north bank. On the south bank a water-powered cloth factory replaced an earlier fulling mill in 1791.



*Terminus milestone, Kingsdown
D Browning*

WT Seven Stars Brewery, Bradford-on-Avon (823608) This former brewery c1840 at the bottom of Wine Street was housed in a massive stone five-storey structure built into the hillside and supported on arches.

WT Abbey Mill, Bradford-on-Avon (826609) This stylish building of seven storeys designed by Richard Gane and built on the banks of the Avon in 1874 is regarded as the finest example of the later local woollen cloth factories. It replaced former buildings which had been operated by steam from the early nineteenth century and incorporated earlier premises of the adjoining Street Mill. After cloth manufacture ceased in 1902 the building was eventually taken over by the rubber trade and in 1971 was restored by the Avon Rubber Company.

WT Greenland Mills, Bradford-on-Avon Of three separate mills under this name **Upper Mill** (831606) a five-storey woollen cloth factory was built in 1804, on a fulling-mill site. It was later extended on either side and survived in the cloth business until 1905. **Middle Mill** (830606) consists of two storeys remaining after a fire in 1863 which destroyed much of the former cloth factory. It later worked in conjunction with Upper Mill but is now used by a printing business. **Lower Mill** (829609) on the opposite side of the weir also occupied an earlier fulling millsite converted to cloth manufacture which was incorporated into the rubber factory of **Kingsdon Mill** (827609) on the adjoining site. These four mills were served by the same weir.

WT Bradford-on-Avon Wharf (825603) The wharf here has been brought back into use after a long period of neglect by the rebuilding of the timber warehouse alongside an original dry dock. The area displays several typical features of the canal with its lock and narrow stone road bridge.

Somerset Borders

SO Farleigh Hungerford water pump (803576) 01 A traditional woollen-mill site on the Somerset Frome was converted to pumping water for the village by means of a 7ft dia waterwheel which is still in place.

SO Fussell's Ironworks, Mells, (737488) The 02 main site of several in the area operated by

the Fussell family to make edge tools from the eighteenth century. A complicated series of watercourses provided power from the Mells River to a number of water-wheels operating tilt hammers and other equipment. The site produced its own gas supply during the nineteenth century when the works had greatly expanded, but closure came in the 1890s.

SO 03 Newbury Colliery, Coleford (696497) A large beam-engine pumphouse is surrounded by a group of former colliery buildings, adapted to other uses, but comprising, possibly, the area's most complete colliery remains, surviving from closure in 1927. Nearby, the spoilheap of **Mackintosh Colliery** at (691496) with its tramway alignment still in evidence adds to the interest of the whole complex. Coke was supplied to the Westbury iron industry by means of a mineral line to the GWR at Babington.

SO 04 Breach Colliery, Vobster (698488) Two banks of beehive coke ovens survive at this nineteenth-century colliery site which also includes a tree-grown spoilheap which hides a stone chimney and other masonry fragments. There were several other small pits in the area with remains which are less significant.

SO 05 Coleford Mill (685487) A high-breast iron waterwheel 17ft 6ins dia, made by J Saver of Frome was used to power this traditional cornmill on a tributary of the Somerset Frome. Last used for milling in 1927, the wheel was later adapted to pump water for the village.

SO 06 Dorset & Somerset Canal This projected coal-carrying canal was never completed but some of the sections built can still be traced, particularly the **Coleford aqueduct** at (685487), and the stretch east of Coleford's Wesleyan chapel (687498) extending for half a mile towards Goodeaves. Approaching Frome the **Murtry Aqueduct** still spans the Somerset Frome at (764498) by three low stone-built arches.

SO 07 Smitham Chimney, East Harptree (556546) The only stack remaining from Mendip lead-smelting sites. The chimney at this works, which closed in 1875, was repaired by voluntary effort in the 1970s, but sadly is now becoming obscured by forestry encroachment. Most of the leadworks was demolished but remains of the reservoir and flue system can still be found in the woodland.

SO 08 Chewton Minery (547515) The reservoir at the side of the West Harptree-to-Wells road is the most obvious evidence of this former leadworks. Early mining remains on nearby Stock Hill have been largely obscured by forestry development. Below the reservoir, piles of overgrown lead slag, lines of buddles and condensing flues can still be discerned.

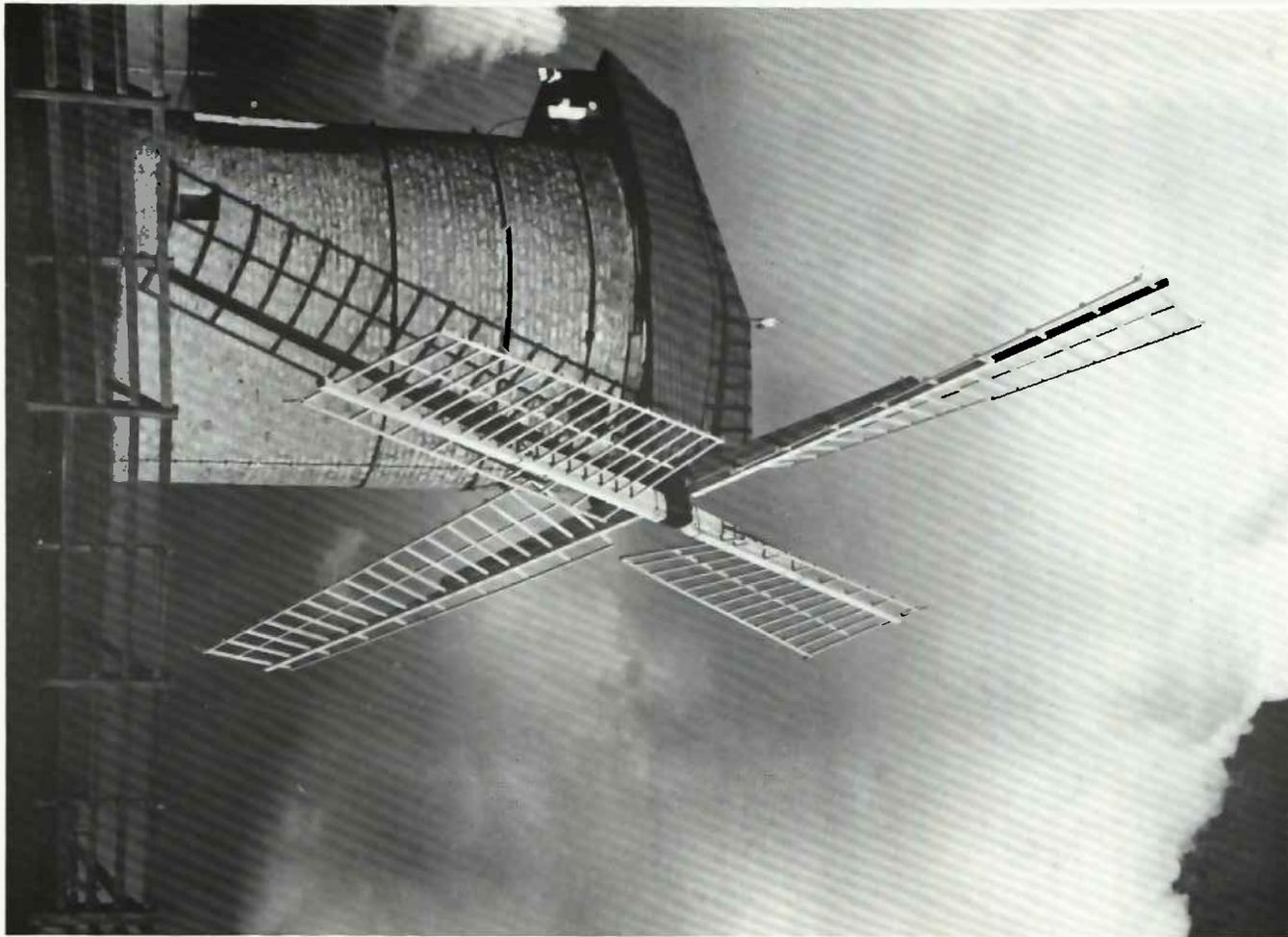
SO 09 St Cuthbert's Leadworks, Priddy (545505) The last of the leadworks to close in 1908 has left surprisingly few remains of the extensive plant employed here. Masonry fragments of a condenser and chimney overlook a circular system of underground flues and large banks of overgrown slag remain on the perimeter of the site.

SO 10 Charterhouse Lead Works The most complex of Mendip lead-mining sites centred around the Blackmoor Valley and extending to Velvet Bottom. The **Charterhouse and Ubley Rakes**, (506556) opencast workings are believed to date from Roman times although they also enclose nineteenth-century mining. The remains of processes for the concentration of ore can be seen in the round **buddle pits** surviving at (504555) and (501554) from nineteenth century operation and a set of **parallel flues**, gradually disintegrating can be seen at (507561), installed there to trap the lead-laden fumes being emitted from the smelting furnaces. Large banks of lead slag surround the reservoir in the vicinity.

SO 11 Shipham calamine mining (447574) A large area of 'gruffy ground', the disturbed ground left by shallow mining, remains on the outskirts of the village, the main centre of eighteenth and nineteenth-century extraction of zinc carbonate ore used in the brassmaking industry of Bristol.

SO 12 Ashton Windmill, Chapel Allerton (414503) The most complete windmill in the area, disused from 1927, restored in the 1950s and presented to Bristol Museum in 1966, it was relinquished to Sedgemoor District Council in 1981, and is open for viewing on Sundays during the Summer. It is a tower mill, originally capped with thatch although now cedar boarded, with four common sails. The timber stocks were replaced with steel in a recent restoration programme.

Ashton windmill, Chapel Allerton



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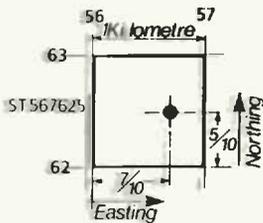
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A note on Grid References



Each six-figure grid reference reads first from East to West taking the two digits on the km line to the East of the site and estimating the remaining tenths for the third. The last three digits read similarly from South to North.

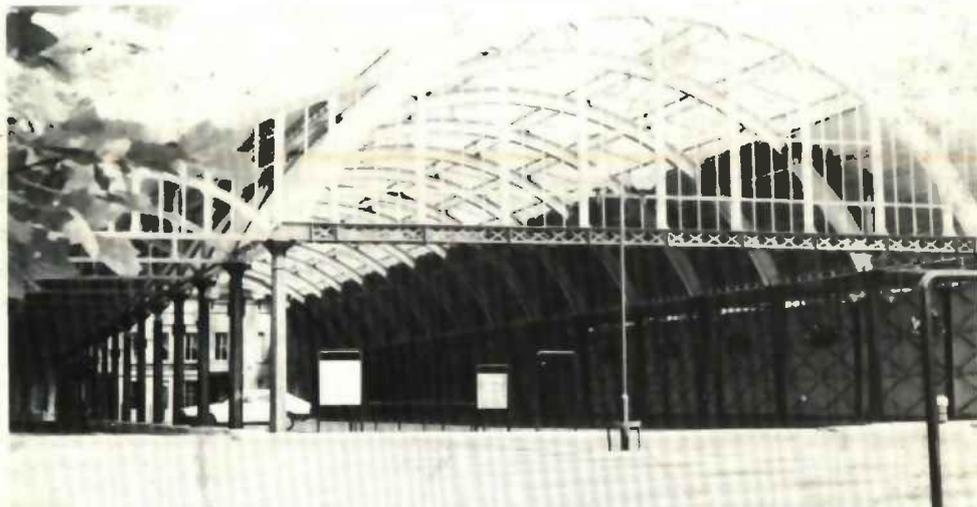
SUBJECT INDEX

Subjects are collated and indexed under their District Site Numbers. The abbreviations refer to the following districts, or areas:

Bath BA
 Bristol City BS
 Bristol's Port BP
 Kingswood KG
 Northavon NA
 Wansdyke WK
 Woodspring WS
 Gloucestershire borders GL
 Somerset borders SO
 Wiltshire borders WT

Alkali works BS27. **Aeroplane works** BS35.
Aqueducts WK21, 27, 44; WS31; WT 10; SO06.
Balloon shed NA19. **Basins** *Floating Harbour* BP07, 14, 17, 19. **Boot & Shoe works** KG23.
Brass industry BA14, 20; BS25; KG02, 10, 26; WK11, 12, 13, 14; SO11. **Breweries** BA08, 10; BS16; WK22, 30; WT12. **Brickworks** NA21, 38; WT01. **Bridges** BA01, 03, 04, 08, 17, 20, 21; BS06, 36, 38, 41; BP05, 13, 14, 16, 19; KG07. *Cast Iron* BA06, 07; BS38, 40; BP19 *Hydraulic* BP13, 19. *Suspension* BA17; BS06; BP19; NA02.
Brunel BA02, 06; BS02, 19, 21; BP06, 08, 13, 18.
Canals/ Navigations BA04, 05, 06, 20; BP17, 18; KG04, 07, 11; WK18, 19, 20, 21, 25, 27, 28, 30, 31, 32, 36; WT10, 15; SO06. *Avon Navigation* BA20; KG04, 07, 11. *Dorset & Somerset* SO06. *Kennet & Avon* BA04, 05, 06; KG04; WK18, 19, 20, 21; WT10, 15. *Somerset Coal* WK21, 25, 27, 28, 30, 31, 32, 36. **Carriage works** BS34.
Celestite NA30. **Chocolate** BS37; KG19.
Chemicals BS27, 28; WS23. **Cider** KG18; NA12. **Cinemas** BS42. **Coal mining** BS26, 29. KG02, 03, 14, 15, 16, 18, 20, 25; NA11, 22, 23, 24, 25, 27, 29; WK06, 31, 33, 34, 35, 36, 38; WS15, 17, 18; SO03, 04. **Copper works** BS25, 30; KG01, 11, 26; WK05, 08. *Slag* BS25; KG01. **Corset making** BA29; KG23. **Colton** BP17; WK10. **Cranes** BA30, BP11, 13; WK21. **Docks** BP01, 04, 09; WS23. **Dyewoods** KG12; WK10. **Electricity** BA11; BS14, 15; WS22, 23. **Engineering** BS32, BP08. **Farms** NA 05; WK40. **Ferries** BA08; BP02, 19; NA01, 02. **Flock processing** KG11; NA37; WS04. **Fullers earth** WK24. **Galvanised iron** BS18; WK40. **Gas works** BA18; BS03; WS09. **Glass works** BS11; WS16. **Gunpowder** BP03; WK36; WS33. **Hal making** NA34. **Horse gins/whims** KG14, 18; NA16; WK09. **Hydraulic power** BP07, 08, 13, 14, 19. **Iron working** BA14, 15, 30; KG05, 24; NA35, 37; NA17, 35, 37; WK02, 05, 08, 35; WS26; SO02. *mining* NA17, 35. **Jessop** BP06, 08, 14, 18, 19. **Lead working** BP16; KG11; SO07, 08, 09, 10. **Lime kilns** NA31; WS05. **Machine tools** BA14; BP08. **Maltings** BA05, 10; NA13, 36; WK26, 30. **Mills water corn/**

grist BA01, 28; BS34, 37; KG04, 05; NA04, 08, 14, 18, 26, 28, 32; WK03, 06, 10, 11, 12, 17, 42; WS04, 26, 27, 28; GL01, 02; WT03, 06; SO05; *tulling* BA01, 20; KG04, 11; NA08; WK10, 11, 12, 14, 17; GL02; WT11. **Motorcycle works** KG24. **Museums and sites open to public** BA13, 14; BS01, 37; BP10, 13; WK20; WS09. **Newcomen engines** BS05; KG26; WK35. **Ochre processing** KG12, 13; NA17; WK01, 10; WS30, 32. **Oil engines** NA17; WS27. **Papermaking** BA24; KG10, 13, 19; NA08; WK05, 42; WS03; GL02; WT02. **Piers** NA01, 02; WS07, 20, 23. **Pilot service** BP02; WS24. **Pin manufacture** BS37; KG26; NA10. **Railways: Avonmouth P & P** BP01, 05. *Bristol & Exeter* BS21, 22. *Bristol Harbour* BP14, 19. *Bristol & N Som* WK07. *Bristol & S Wales* NA01. *GWR* BA02, 06, 22; BS02, 19, 21; WS08, 12. *Hallatrow branchline* WS25, 30. *Midland* BA16, 23; KG09, 17, 21, 22; NA09, 35. *Som & Dorset* BA16, 23; WK24, 25, 36, 37. *Wrington Vale* WS02. *Weston, Clevedon & Portishead* WS11. *horse-drawn* BA25; KG06, 22; NA09, 24; WK27, 31, 32, 36; WS08. *inclines* BA25; KG03, 06; NA17; WK18; WT09. *locomotives* BP13; KG09. **Rocks** BS08. **Reinforced concrete** BS36; BP11, 15, 19. **Rennie, John** BA04; WK20, 21. **Reservoirs** BS37; WK02, 39; WS01, 42, 43. **Rocks Railway** BS08. **Rubber** BS43; WT13, 14. **Sail making** BP12. **Sand trade** BP09. **Ships** *SS Great Britain* BP10, 13. *SS Great Western* BS02; BP13. **Ship building** BP09, 10, 13. **Shop fronts** BA12. **Snuff processing** BS07, 34; WK01; WS27, 32. **Soap works** BS17, 32. **Steam engines, stationary** BS04, 05, 34; BP08; WK 36; WS01, 13. **Steel manufacture** KG05. **Stone industry** BS14, 15, 25, 27; NA29; 31; WK18; WS05; WT04. **Sugar processing** BS13. **Sulphur extraction** BS30. **Tanning** WK09. **Tar distillation** BA18; BS28. **Tin printing** BS32. **Tobacco** BS10; BP11, 19. **Tramways, urban electric** BA11; BS14, 22, 24, 31, 39, 40. *urban horsedrawn* BS31. **Transit Sheds, docks** BP11, 12. **Tunnels, railway** BA22, 23; BP05, 14; KG06, 22; WT05. **Turnpike Trusts** BA09, 13, 19; BS09, 23; KG08, 27; NA15, 20; WK04, 15, 16, 29; GL03; WT07. **Viaducts, railway** BA22; WK07, 24, 25. **Warehouses** BP12, 14, 15. **Waterwheels** BS34, 37; KG11; NA04, 08, 14; WK03, 10, 20; WS26, 27, 28; GL02; WT02; SO01. **Waterworks** BS04; WK02, 39, 43, 44; WS01, 13, 19, 31; SO01. **Weirs** BA01, 08, 20; BP18, 19; KG04, 07. **Windmills** BS07; KG26; NA06, 33; WS06, 10, 14, 21, 29; SO12. **Wine Trade** BS01. **Woollen Cloth** BA20; BS12; NA10; WK23; GL04, 05, 06; WT13, 14. **Workers' Housing** BA20, 22, 27; BP10; WK13, 33; WS16; GL06. **Zinc production** KG02, 26; SO11.



Green Park Station, Bath

AIA Bulletin Extra

This Guide is published by the Association for Industrial Archaeology on the occasion of its 15th Annual Conference in September 1987 at the University of Bath. It follows the policy of the Association to publish information booklets about the areas in which the Annual Conferences are held.

AIA was established in 1973 to promote the study of Industrial Archaeology and encourage improved standards of recording, research, conservation and publication. It aims to support individuals and groups involved in the study and recording of past industrial activity and in the preservation of industrial monuments: to represent the interests of Industrial Archaeology at national level; to hold conferences and seminars, and to publish the results of research. The Association is a purely voluntary one with no paid officers; it is administered by an elected Council of Management. The AIA publishes the *Industrial Archaeology Review* which is sent twice yearly to all members, who also receive quarterly issues of the *AIA Bulletin*. Additional

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